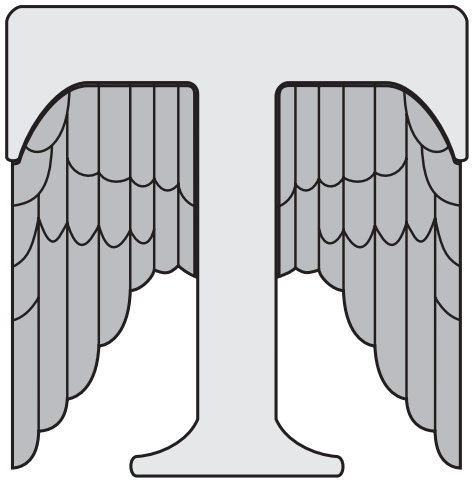
THETA DIGITAL

C O R P O R A T I O N



Casablanca III

Owner's Manual

V 3.00 Rev B3

Digital Done Right™

PREFACE

CONGRATULATIONS

You have just acquired the most advanced component for the control and processing of audio and video ever to have been developed.

IMPORTANT

Save all packaging in a dry place away from fire hazards. Your Casablanca III is a precision electronic instrument and should be properly packaged any time shipment is made. In the unlikely event that you have to return your Casablanca III to the factory for service, or if you send it to us for updating, the original packaging will best protect the unit from shipping damage.

In order to achieve the fullest flexibility and enjoyment from your Casablanca III, we at Theta recommend that you read this manual in full before connecting the unit to your audio/video system.

WARNING

United Stated law prohibits disposition of these commodities to Libya, Laos, North Korea, Cambodia or Cuba unless otherwise authorized by the United States.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

* Reorient or relocate the receiving antenna.
* Increase the separation between equipment and receiver.
* Connect the receiver into an outlet on a circuit different from that which the Casablanca III is connected to.

Acknowledgments

Casablanca III is manufactured under license from Dolby Laboratories. “Dolby”, “Pro Logic” and the double-D symbol are registered trademarks of Dolby Laboratories.

Casablanca III is manufactured under license from Digital Theater Systems, Inc. U.S. Pat. No's. 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535 and other U.S. and world-wide patents issued and pending. "DTS", "DTS-ES", "DTS-ES", "Neo:6" and "DTS 96/24" are trademarks of Digital Theater Systems, Inc. Copyright 1996, 2003 Digital Theater Systems, Inc. All Rights Reserved.

Casablanca III is manufactured under license from SRS Labs, Inc. Circle Surround, SRS and ⓒ symbol are trademarks of SRS Labs, Inc

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Written and illustrated by Glenn Buckley.

This manual is also available for download as a PDF file at Theta Digital’s website. http://www.thetadigital.com

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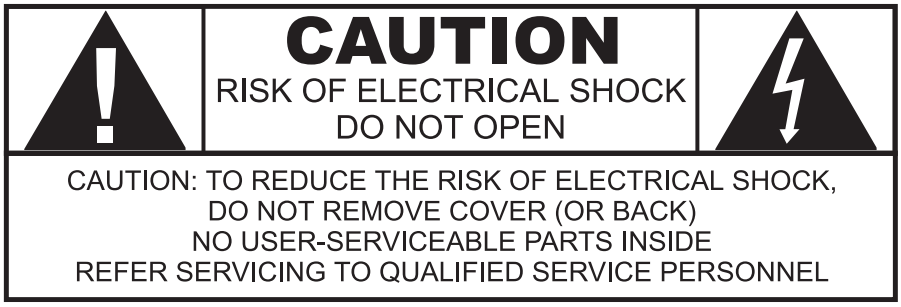
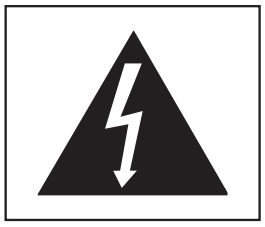

CAUTION
RISK OF ELECTRICAL SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of significant magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THE (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

Casablanca III Identification Record

This information is for your records and for future identification of the Casablanca III. Please take a moment to fill out all pertinent data now, and as upgrades and/or options are installed. **Whenever upgrades, inquiries and/or changes are requested, the serial number will be required.**

SERIAL NUMBER _____

DATE PURCHASED _____

DEALER'S NAME _____

DEALER'S ADDRESS/PHONE _____

INSTALLED CARDS/OPTIONS _____
(Date of installation)

_____
(Date of installation)

_____
(Date of installation)

_____
(Date of installation)

_____
(Date of installation)

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(Date of installation)

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(Date of installation)

SAFETY PRECAUTIONS

Please carefully read each item of the operating instructions and safety precautions before using this product. Use extra care to follow the warnings written on the product itself and/or in the operating instructions. Keep the operating instructions and safety precautions for future reference.

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE ANY OF THE COVER PANELS.

NO USER-SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT ALLOW LIQUIDS TO SPILL OR OBJECTS TO FALL INTO ANY OPENINGS OF THE PRODUCT.

THIS UNIT IS SUPPLIED WITH A 3 PIN GROUNDED AC PLUG. ALWAYS INSERT THE AC PLUG INTO A GROUNDED OUTLET. DO NOT REMOVE THE GROUND PIN OR DISABLE THE GROUND FOR ANY PURPOSE.

BEFORE MAKING ANY CONNECTIONS TO THE CASABLANCA III, FIRST TURN OFF THE POWER AND THEN DISCONNECT THE AC POWER CORD.

WHEN INSTALLING THE CASABLANCA III IN YOUR SYSTEM, MAKE CERTAIN TO ALLOW A MINIMUM OF 3 INCHS OF VENTILATION ON EACH SIDE OF THE UNIT. ALSO ALLOW AT LEAST 3½ INCHS OF VENTILATION SPACE ABOVE THE UNIT. IMPROPER VENTILATION OF THE UNIT MAY CAUSE OVERHEATING, WHICH MAY DAMAGE THE UNIT AND CAUSE A FIRE. PLACE THE UNIT ON A SOLID SURFACE ONLY. I.E. NOT ON CARPET, ETC.

DO NOT PLACE THE CASABLANCA III NEAR HEAT SOURCES SUCH AS DIRECT SUNLIGHT, STOVES, HEAT REGISTERS, RADIATORS OR OTHER HEAT PRODUCING EQUIPMENT.

TO PREVENT DAMAGE TO THE ANALOG OUTPUT CIRCUITRY, BE CERTAIN NOT TO SHORT THE OUTPUT SIGNAL PIN(S) TO GROUND. ENSURE THAT YOUR AUDIO OUTPUT CABLES DO NOT HAVE ANY INTERNAL SHORTS BEFORE CONNECTING THEM TO THE CASABLANCA III.

IF REPLACEMENT OF THE AC LINE FUSE BECOMES NECESSARY, REPLACE ONLY WITH SAME VALUE AND TYPE OF FUSE. NEVER BYPASS THE FUSE.

IF THE AC CORD BECOMES DAMAGED, DO NOT USE IT. IMMEDIATELY REPLACE IT WITH A NEW ONE OF THE SAME OR BETTER RATING.

AFTER MARKET and THIRD PARTY MODIFICATIONS

Please note that any after market and/or third party modifications will void the warranty. In the case of changing the feet on a unit, in order to prevent any damage (which will also not be covered under warranty), please verify that the screws being used to secure non Casablanca III feet do not screw any deeper into the chassis than the original ones. The original screw is 10-32 by 3/8 and goes into the chassis 1/5 inch.

Table of Contents

PREFACE ii
WARNING iii
Casablanca III Identification Record iv
SAFETY PRECAUTIONS v
AFTER MARKET and THIRD PARTY MODIFICATIONS v
List of Figures ix
List of Tables x
INTRODUCTION 1
Getting to know your Casablanca III 1
Burn In Time 1
IMPORTANT NOTICE 2
Reference Manual Conventions 2
Glossary of Terms and Abbreviations 3
Casablanca III Block Diagram - Input Processing Sections 4
Casablanca III Block Diagram – DAC, Analog & Digital Out Sections 6
Front Panel Layout 9
Rear Panel Layout 10
Menu Maps 14
Function Menus and Pages 14
Input Select Pages 14
Setup Menus and Pages 15
Introduction to the User interface 16
WARNING !! : PLEASE READ FIRST! 16
Before you begin 16
STEP-BY-STEP SETUP GUIDE 17
Casablanca III Overall Setup Procedure Flowchart 18
Step by Step Speaker Configuration 19
Speaker Configuration & Crossovers 19
Phase Perfect 19
Butterworth 20
Linkwitz-Riley 20
A note on crossovers 20
A note on home theater 20
Speaker Configuration & Crossovers – Con't. 21
Speaker Levels 22
Speaker Delays 23
Dolby Digital, DTS and Circle Surround II Setup 24
Remaining Setup 25
Setup Flowcharts A-P 26
FRONT PANEL OPERATIONS 42
Input Select Menus 42
Changing Inputs and Input Select Pages 42
Selecting Mapped Input Jacks for the Currently Selected Input 42
Search Order 44
MODE Function 45
TAPE OUT Function 49
Standard Tape Out Configuration 50
Optional Upgrade Tape Out Configuration 50
SETUP Function 51
Setup Button Password 51
DAC Configuration 51
SETUP INPUT (Settings specific to each of the 12 Input Select Buttons) 52
Setup Input Page 1 52
Setup Speaker Configuration 52
SUB Configuration 53
Left/Right Speaker Configuration 54
Crossovers 55
Center Speaker Configuration 57
Left/Right Surround Speaker Configuration 58
Center Surround Speaker Configuration 58
Side Speaker Configuration 58
Speaker Levels 59
Internal Noise Generator 59
Speaker Delays 61
Default Mode 62
Onscreen Display (OSD) Setup 63
Status Setup 63
VFD Brightness 63
Setup Input Page 2 64

LFE Phase 64
Mapping Audio and Video Sources (Input Jack to INPUT SELECT button) 64
Setup Dolby Digital 66
2-Channel Mode 66
Compression (Night Mode) 66
Dialog Normalization 66
Setup DTS 70
Setup Circle Surround II 71
Post Process 72
Setup Input Page 3 72
Setup Miscellaneous 73
Naming the Current Input Select button 73
Master Delay 73
Password for Each INPUT SELECT Button 73
Center Spread 74
Six Shooter 74
Setup Global 75
Analog Input Levels 75
Jack Names 76
Remote Power Jacks 76
Clear Balance (Temporary Settings Control) 77
RS232 77
Mute/Volume 78
Initial Power-On Master Volume 78
FVOL and SVOL 78
Maximum Overall Level 78
Changing the Default MUTE Level 78
MUTE Off Trigger 78
Cursor Type 79
Displaying Mode Change Messages 79
Display Time 79
Serial Number 79
Macros 80
Copy Macros 80
Restore Macros 80
BALANCE Function 82
Front/Rear and Left/Right Balance 82
Center and Sub Balance 82
Shelf EQ 82
Analog Input Level Override 83
STATUS Function 84
Remote Control Layout 87
REMOTE CONTROL OPERATIONS 88
Input Select Menus 88
Changing Inputs and Input Select Pages 88
Selecting Mapped Input Jacks for the Currently Selected Input 88
Mute 88
Display 88
Global Phase 88
STATUS Display 89
MODE Function 90
TAPE OUT Function 91
SETUP Function 92
Setup Button Password 92
DAC Configuration 92
SETUP INPUT (Setting up each of the 12 Input Select Buttons) 93
Setup Input Page 1 93
Speaker Configuration 93
Left/Right Speaker Configuration 93
Center Speaker Configuration 94
Surround Speaker Configuration 95
Sub Woofer Configuration 95
Surround Center Configuration 96
Side Speaker Configuration 96
Speaker Levels 96
Speaker Delays 97
Default Mode 98
Onscreen Display (OSD) Setup 98
Status Setup 98
VFD Brightness 99
Setup Input Page 2 99

LFE Phase 99
Mapping a Source (Input Jack to INPUT SELECT button) 99
Setup Dolby Digital 100
2-Channel Mode 100
Compression 100
Dialog Normalization 101
Setup DTS 102
Setup Circle Surround II 104
Post Process 105
Setup Input Page 3 105
Setup Miscellaneous 105
Naming the Current Input Select button 105
Master Delay 106
Password for Each INPUT SELECT Button 106
Center Spread 106
Six Shooter 106
Setup Global 107
Analog Input Levels 107
Jack Names 107
Main Power Triggers 108
Clear Balance (Temporary Settings Control) 108
RS232 109
Mute/Volume 109
Initial Power-On Master Volume 109
FVOL and SVOL 109
Maximum Overall Level 110
Changing the Default MUTE Level 110
MUTE Off Trigger 110
Cursor Type 110
Displaying Mode Change Messages 111
Display Time 111
Serial Number 111
Macros 111
Copy Macros 111
Restore Macros 112
BALANCE Function 113
Front/Rear and Left/Right Balance 113
Center and Sub Balance 113
Shelf EQ 113
Analog Input Level Override 113
APPENDIXES 114
Appendix A Troubleshooting Guide 115
Appendix B Wiring Diagrams and Speaker Placement Guides 116
Digital Out/External Volume Control Wiring Diagrams 119
Six Shooter Wiring Diagram 121
Appendix C Remote Extender Jack Technical Description and Protocol 122
Appendix D Upgrading/Re-installing Casablanca III Software 123
Appendix E Specifications 124
WARRANTY INFORMATION 132

List of Figures

Figure 1 - Block Diagram of Input Processing Sections 4
Figure 2 - Block Diagram of 8 S-Video Switching Card 5
Figure 3 - Block Diagram of Multi Format/6 S-Video Switching Card 5
Figure 4 - Block Diagram of Standard & Superior 1 DAC boards 6
Figure 5 - Block Diagram of Superior II DAC board 7
Figure 6 - Block Diagram of Xtreme 4-Channel DAC board 7
Figure 7 - Block Diagram of Digital Output board, showing all options 8
Figure 8 - Front Panel Layout 9
Figure 9 - Rear Panel Layout 10
Figure 10 - All Single-Ended D/A Card Configuration Options 11
Figure 11 - All Standard Balanced D/A Card Configuration Options 11
Figure 12 - All Superior D/A Card Options and the Digital Output card with Center Channel 12
Figure 13 - All Superior II D/A Card Options 12
Figure 14 - Xtreme DAC 13
Figure 15 - Mode, Status, Balance, Tape Out Menus and Input Select Pages 14
Figure 16 - Setup Menus and Pages 15
Figure 17 - Front Panel Display of the current INPUT SELECT page 42
Figure 18 - Front Panel Display of the SETUP/INP *page 2*/SOURCE/AUD page 44
Figure 19 - Front Panel Display of the MODE *Page 1* Menu 45
Figure 20 - Front Panel Display of the MODE *Page 2* Menu 46
Figure 21 - Front Panel Display of the MODE *Page 3* Menu 47
Figure 22 - Front Panel Display of the TAPE OUT Menu 49
Figure 23 - Front Panel Display of the SETUP Menu 51
Figure 24 - Front Panel Display of the SETUP/Assign Password Display 51
Figure 25 - Front Panel Display of the SETUP/INPUT page 1 Submenu 52
Figure 26 - Menu Map of SETUP/INP *Page 1*/CONFIG 52
Figure 27 - Front Panel Display of the Speaker Configuration Submenu 53
Figure 28 - Front Panel Display of the Subs Configuration Submenu 53
Figure 29 - Menu Map of SETUP/INP *Page 1*/CONFIG/LT/RT 54
Figure 30 - Front Panel Display of the Front Left/Right Speaker Configuration Submenu 55
Figure 31 - Front Panel Display of the SETUP/INP/CONFIG/LT/RT/ϕPERF Submenu 55
Figure 32 - Front Panel Display of the SETUP/INP/CONFIG/LT/RT/Link-R Submenu 56
Figure 33 - Front Panel Display of the SETUP/INP/CONFIG/LT/RT/BWORTH Submenu 56
Figure 34 - Front Panel Display of the SETUP/INP/CONFIG/CENTER Submenu 57
Figure 35 - Front Panel Display of the SETUP/INP/CONFIG/L-R SURRND Submenu 58
Figure 36 - Front Panel Display of the SETUP/INP/LVLS/Channel Choice Submenu 59
Figure 37 - Front Panel Display of the SETUP/INP/LVLS 1-6 Submenu 59
Figure 38 - Front Panel Display of the SETUP/INP/LVLS 7-12 Submenu 59
Figure 39 - Front Panel Display of the SETUP/INP/DELAYS 1 Submenu 61
Figure 40 - Front Panel Display of the SETUP/INP/DELAYS 2 Submenu 61
Figure 41 - Rear Delay Settings 62
Figure 42 - Front Panel Display of the SETUP/INP/OSD Submenu 63
Figure 43 - Front Panel Display of the SETUP/INP/OSD/STATUS 1 Submenu 63
Figure 44 - Menu Map of SETUP/INP *Page 2* 64
Figure 45 - Front Panel Display of the SETUP/INP *Page 2* Submenu 64
Figure 46 - Front Panel Display of the SETUP/INP *Page 2*/SOURCE/AUD Submenu 65
Figure 47 - Front Panel Display of the SETUP/INP *Page 2*/DOLBY DIGITAL *Page 1* Submenu 66
Figure 48 - Front Panel Display of the SETUP/INP *Page 2*/DOLBY DIGITAL *Page 2* Submenu 67
Figure 49a - Front Panel Display of the SETUP/INP *Page 2*/DOLBY *Page 3* EX Submenu 68
Figure 49b - Front Panel Display of the SETUP/INP *Page 2*/DOLBY *Page 3* PLIIx Submenu 68
Figure 49c – Diagram of Panorama Effect 68
Figure 49d – Diagram of Center Width Values 69
Figure 50 - Front Panel Display of the SETUP/INP *Page 2*/DTS 1 Submenu 70
Figure 51 - Front Panel Display of the SETUP/INP *Page 2*/DTS 2 Submenu 71
Figure 52 - Front Panel Display of the SETUP/INP *Page 2*/CIRCLE SURRND II Submenu 71
Figure 53 - Front Panel Display of the SETUP/INP *Page 2*/POST PROCESS Submenu 72
Figure 54 - Menu Map of SETUP/INP *Page 3* 72
Figure 55 - Front Panel Display of the SETUP/INP *Page 3* Submenu 72
Figure 56 - Front Panel Display of the SETUP/INP *page 3*/MISC Submenu 73
Figure 57 - Front Panel Display of the SETUP/GLOBAL *page 1*/ Submenu 75
Figure 58 - Front Panel Display of the SETUP/GLOBAL/ANLG LVLS Submenu 75
Figure 59 - Front Panel Display of the SETUP/GLOBAL/JACK NAMES Submenu 76
Figure 60 - Front Panel Display of the SETUP/GLOBAL/REMPWR Submenu 76
Figure 61 - Front Panel Display of the SETUP/GLOBAL/RS232 Submenu 77
Figure 62 - Front Panel Display of the SETUP/GLOBAL/MUTE-VOLUME Submenu 78
Figure 63 - Front Panel Display of the SETUP/GLOBAL *page 2* Submenu 79
Figure 64 - Front Panel Display of the SETUP/MACROS Submenu 80
Figure 65 - Front Panel Display of the SETUP/MACROS/RESTORE FACTORY Submenu 80

Figure 66 - Front Panel Display of the BALANCE *Page 1* Menu 82
Figure 67 - Front Panel Display of the BALANCE *Page 2* Menu 82
Figure 68 - Front Panel Display of the STATUS Display 84
Figure 69 - Front Panel Display of the STATUS/Dolby Digital Display 84
Figure 70 - Front Panel Display of the STATUS/DTS Display 85
Figure 71 - Remote Control Layout 87
Figure 72 - Video Display of the INPUT SELECT *Page 1* Menu 88
Figure 73 - Video Display of the STATUS Display 89
Figure 74 - Video Display of the Dolby Digital Status Page 89
Figure 75 - Video Display of the DTS Status Page 89
Figure 77 - Video Display of the MODE *Page 1* Menu 90
Figure 78 - Video Display of the MODE *Page 2* Menu 90
Figure 79 - Video Display of the MODE *Page 3* Menu 90
Figure 80 - Video Display of the TAPE OUT Menu with Optional Tape Out DAC installed and set to MAIN 91
Figure 81 - Video Display of the TAPE OUT Menu with Optional Tape Out DAC installed and set to TAPE 91
Figure 82 - Video Display of the SETUP Menu 92
Figure 83 - Video Display of the SETUP Password Page 92
Figure 84 - Video Display of the SETUP/INPUT *Page 1* Submenu 93
Figure 85 - Video Display of the SETUP/INPUT *Page 1*/SPEAKER CONFIGURATION Submenu 93
Figure 86 - Video Display of the SETUP/ INPUT *Page 1*/CONFIG/LEFT/RIGHT Configuration Submenu 93
Figure 87 - Video Display of the SETUP/INPUT *page 1*/SPEAKER CONFIG/ CENTER Submenu 94
Figure 88 - Video Display of the SETUP/INPUT *page 1*/CONFIG/SURROUND CONFIGURATION Submenu 95
Figure 89 - Video Display of the SETUP/INPUT *Page 1*/CONFIG/SUB CONFIGURATION Submenu 95
Figure 90 - Video Display of the SETUP/INPUT *page 1*/CONFIG/SURROUND CENTER Submenu 96
Figure 91 - Video Display of the SETUP/ INPUT/LEVELS 1-6 Submenu 96
Figure 92 - Video Display of the SETUP/INPUT/LEVELS 7-12 Submenu 97
Figure 93 - Video Display of the SETUP/INPUT/DELAYS 1 Submenu 97
Figure 94 - Video Display of the SETUP/INPUT/DELAYS 2 Submenu 97
Figure 95 - Video Display of the SETUP/INPUT *Page 3*/ON-SCREEN DISPLAY Submenu 98
Figure 96 - Video Display of the SETUP/INPUT/OSD/STATUS page 1 Setup Submenu 98
Figure 97 - Video Display of the SETUP/INPUT *Page 2* Submenu 99
Figure 98 - Video Display of the SETUP/INPUT *Page 2*/DOLBY DIGITAL *Page 1* Submenu 100
Figure 99 - Video Display of the SETUP/INPUT *Page 2*/DOLBY DIGITAL *Page 2* Submenu 101
Figure 100a - Video Display of the SETUP/INPUT *Page 2*/DOLBY DIGITAL *Page 2* Submenu 102
Figure 100b - Video Display of the SETUP/INPUT *Page 2*/DOLBY DIGITAL *Page 2* Submenu 102
Figure 101-102 - Video Display of the SETUP/INPUT *Page 2*/DTS 1 and DTS 2 Submenus 102
Figure 103 - Video Display of the SETUP/INPUT *Page 2*/CIRCLE SURROUND Submenu 104
Figure 104 - Video Display of the SETUP/INPUT *Page 2*/POST PROCESS Submenu 105
Figure 105 - Video Display of the SETUP/INPUT *Page 3* Submenu 105
Figure 106 - Video Display of the SETUP/GLOBAL *Page 1* Submenu 107
Figure 107 - Video Display of the SETUP/ANALOG INPUT LEVELS Submenu 107
Figure 108 - Video Display of the SETUP/ INPUT/JACK NAMES Submenu 107
Figure 109 - Video Display of the SETUP/GLOBAL/REMOTE POWER Submenu 108
Figure 110 - Video Display of the SETUP/GLOBAL/RS232 Submenu 109
Figure 111 - Video Display of the SETUP/GLOBAL/MUTE-VOLUME Submenu 109
Figure 112 - Video Display of the SETUP/GLOBAL *Page 2* Submenu 110
Figure 113 - Video Display of the SETUP/MACROS Submenu 111
Figure 114 - Video Display of the SETUP/MACROS/RESTORE FACTORY Submenu 112
Figure 115 - Video Display of the BALANCE *Page 1* Menu 113
Figure 116 - Video Display of the BALANCE *Page 2* Menu 113
Figure 117 - Examples of Typical Input and Tape Out Connections 116
Figure 118 - Recommended Output Wiring Diagram Using 12 Single-Ended channels 116
Figure 119 - Recommended Speaker Placement for Six-Channel Configuration 117
Figure 120 - Recommended Speaker Placement for Twelve-Channel Configuration 117
Figure 121 - Recommended Output Wiring Diagram Using 12-channels (Six Balanced and Six Single-Ended) 118
Figure 122 - Recommended Output Wiring Diagram Using 8 balanced Xtreme channels 118
Figure 123 - Wiring diagram for the Casablanca III Digital Output board and a 2-Channel External Volume Control unit. 119
Figure 124 - Wiring diagram for the Casablanca III Digital Output board and a 6-Channel External Volume Control unit. 120
Figure 125 - Wiring diagram for the optional Six Shooter 121

List of Tables

Table 1 - Glossary of Terms and Abbreviations 3
Table 2 - Available configuration settings for front L/R speaker Phase Perfect crossover. 56
Table 3 - Available configuration settings for front L/R speaker Linkwitz-Riley crossover. 56
Table 4 - Available configuration settings for front L/R speaker Butterworth crossover. 57
Table 5 - Source to Output Routing for Speaker Level Configuration. 60
Table 6 – Additional Speaker Modes for Dolby Digital Source. 67
Table 7 – Additional Speaker Modes for DTS Source. 70
Table 8 – OSD Additional Speaker Modes for Dolby Digital Source. 101
Table 9 – OSD Additional Speaker Modes for DTS Source. 103

INTRODUCTION

Welcome to a new world of possibilities. Casablanca III is by far the most advanced surround sound processor/home theater controller available today. It offers the advantages of Theta's legendary mastery in digital signal processing and sound quality unapproachable by any other equipment.

Getting to know your Casablanca III

Despite Casablanca III's great technical sophistication, we believe in making it as easy as possible for you to use. We think you'll enjoy the intuitive way the Casablanca III works. Rather than offer a frustrating bewilderment of little used functions in constant view vying for your attention, Casablanca III is structured systematically by function.

The "user interface" is based on simple logic. For example, when a function button is pressed, you can make changes within its menu(s) and press the same function button again to exit that function. (The same button that got you in gets you back out).

This Casablanca III has been put through a rigorous and unique testing procedure that insures that it will last for many years with minimal service requirements. This procedure includes the following:

- All assembled circuit boards are given a thorough visual inspection and are then tested in a bench-reference Casablanca III.
- The tested assembled circuit boards are installed in a new Casablanca III and the whole unit is tested for every function and parameter.
- The unit is put on a burn-in torture rack for 100 hours to test for any possible component failures.
- The Casablanca III is tested on an audio analyzer for all pertinent parameters.
- The Casablanca III is put through a final bench test wherein every possible feature, mode and parameter is checked.
- The unit has all remaining chassis components installed and then undergoes a complete visual inspection, which assures that all Casablanca IIIs meet visual specifications.
- The unit is then put through a critical listening test.

Burn In Time

This unit has a break in period of about 1 week during which continuous improvement in sound quality will be observed. It is recommended that music be played continuously through the unit during this time to expedite the break in period.

IMPORTANT NOTICE

I. Due to the computer-based circuitry used in Theta products, it is imperative that the Casablanca III be connected to a ground via its three wire AC power cord. It is important that the AC power outlet which the Casablanca III is plugged into, is actually grounded. Failure to do so will severely compromise the performance, reliability and safety of use of the Casablanca III.

II. It is important to prevent contact with static electricity when connecting other components and cables to the Casablanca III. When connecting cables, simply place one hand on top of the Casablanca III and then grasp the metal "barrel" of the cable with the other hand and plug (unplug) the cable into (from) the appropriate jack on the Casablanca III.

III. The Casablanca III, as with all electronic equipment, is susceptible to static discharges. Resetting the unit may be required if anomalies occur after receiving a static discharge. In this case, put the unit in standby and turn off the rear panel power switch for 2 minutes, and then turn it on again.

IV. Ventilation is an important issue when placing the Casablanca III in a system. Make certain that the Casablanca III is placed in a well-ventilated area or rack unit.

V. Please take note that some powerline conditioners defeat the AC power ground on their outlets. If the intention is to plug the Casablanca III into a line conditioner, check with your dealer to make certain that the particular conditioner that is intended for use DOES NOT DEFEAT THE AC GROUND on its AC outlets.

VI. DO NOT remove any cover panels from the Casablanca III, as there are no user serviceable components inside. Refer servicing and updating to qualified service personnel only.

VII. Should the Casablanca III need to be reset, it must be put in standby first via the front panel power button. Then the rear panel power switch is to be turned off for at least 2 minutes.

VIII. The Casablanca III can be susceptible to excessive RF. End caps on all unused inputs will improve the sound quality and may reduce the susceptibility to RF induced anomalies.

Reference Manual Conventions

For clarity purposes, references to buttons, LEDs and display parameters will be shown in **BOLD CAPITOL** letters.

All functions to be performed from, and in reference to, the front panel of the Casablanca III will be found in the front section of this manual. All functions to be performed using the hand held remote and/or viewed on a video monitor will be found in the back, or last part of this manual.

Glossary of Terms and Abbreviations

TERM	DEFINITION
AES/EBU (Audio Engineering Society) / (European Broadcasters Union)	A three wire balanced digital audio standard. This interface uses a 3-pin XLR connector and allows for data communication between digital audio equipment.
Analog-to-Digital Converter	A device that converts analog signals into a digital format. Once encoded, all audio is stored or processed as a series of numbers rather than as the audio itself.
Balanced Audio Signals	Signals that are carried on three-conductor cables (AES/EBU), with two of the conductors carrying the same signal 180° out of phase and the third as ground. Balanced connections usually cost more than unbalanced connections, but are less susceptible to picking up hum and prevent interference with low-level signals.
Center Spread	A proprietary Theta Digital process whereby the front center speaker signal can be incrementally spread evenly between the front left and right speakers.
dB	Decibel, a relative unit of loudness.
Dolby 3 Stereo	The Dolby 3 Stereo mode reproduces sound using only the 3 front channels, and is intended to be used either before surround speakers are installed, or for programs that might benefit from deriving a center channel output, but where the quality of the surround output is unsatisfactory.
Digital-to-Analog Converter	A device that converts digital signals into an analog format.
Hz (Hertz)	A unit of frequency.
IR	Infrared. A method of wireless transmission of data.
LFE	Low Frequency Effect. Commonly a discrete audio track designated for a sub woofer.
mS	Millisecond, or 1\1000 of a second.
Oversampling	The process of creating more sample points in order to more accurately reconstruct a digitized signal for playback in the analog domain.
Phantom Center Mode	Redirects the center channel signal equally to the front left and right outputs, thus creating the illusion of a center speaker. This mode is intended for use when no center speaker is present.
Phantom Surround Mode	Intended for use when no surround speakers are present in the system. The surround information is added to the front channels. If the current mode is Dolby Pro Logic, the Casablanca III will automatically decode in Dolby 3 Stereo.
Sampling Rate	The rate at which an analog (real world) signal is converted into digital numeric values.
S/PDIF Interface (Sony/Phillips Digital Interface format)	A digital audio interconnection standard, developed jointly by Sony and Phillips.
TRS	Tip, Ring, Sleeve. Names of the 3 connecting elements of a stereo phono jack or plug.
Unbalanced Audio Signals (AKA single-ended)	Signals that are carried on two-conductor cables, one “hot”, or signal, and one ground.
Xover	Abbreviation for the word ‘Crossover’.

Table 1 - Glossary of Terms and Abbreviations

Casablanca III Block Diagram - Input Processing Sections

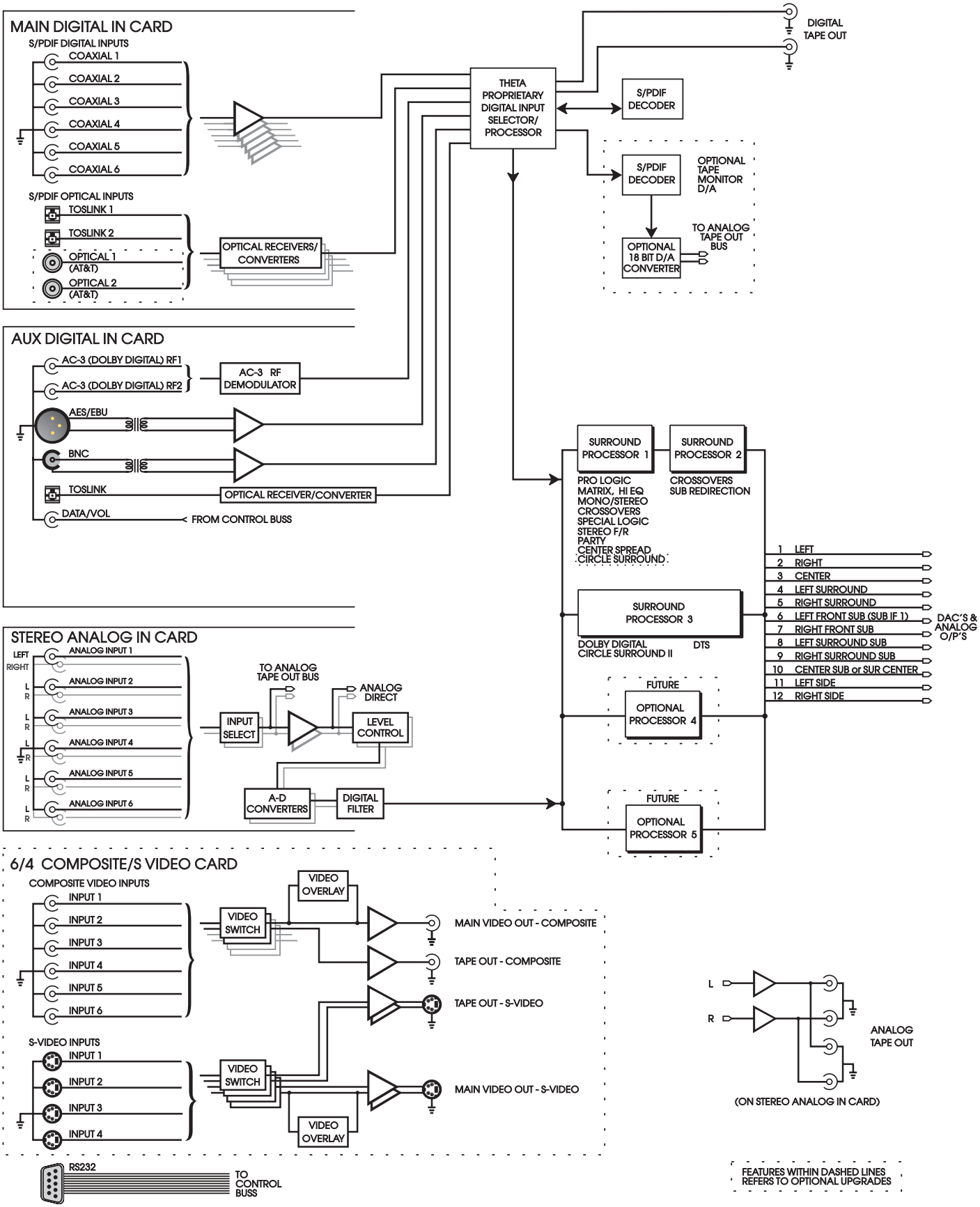


Figure 1 - Block Diagram of Input Processing Sections

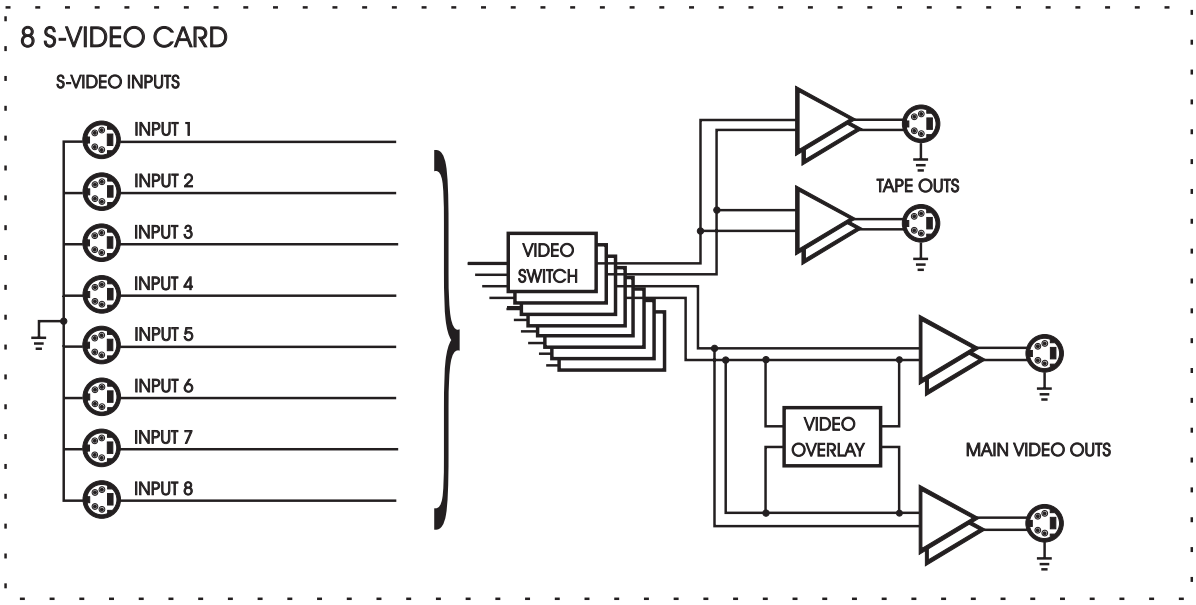


Figure 2 - Block Diagram of 8 S-Video Switching Card

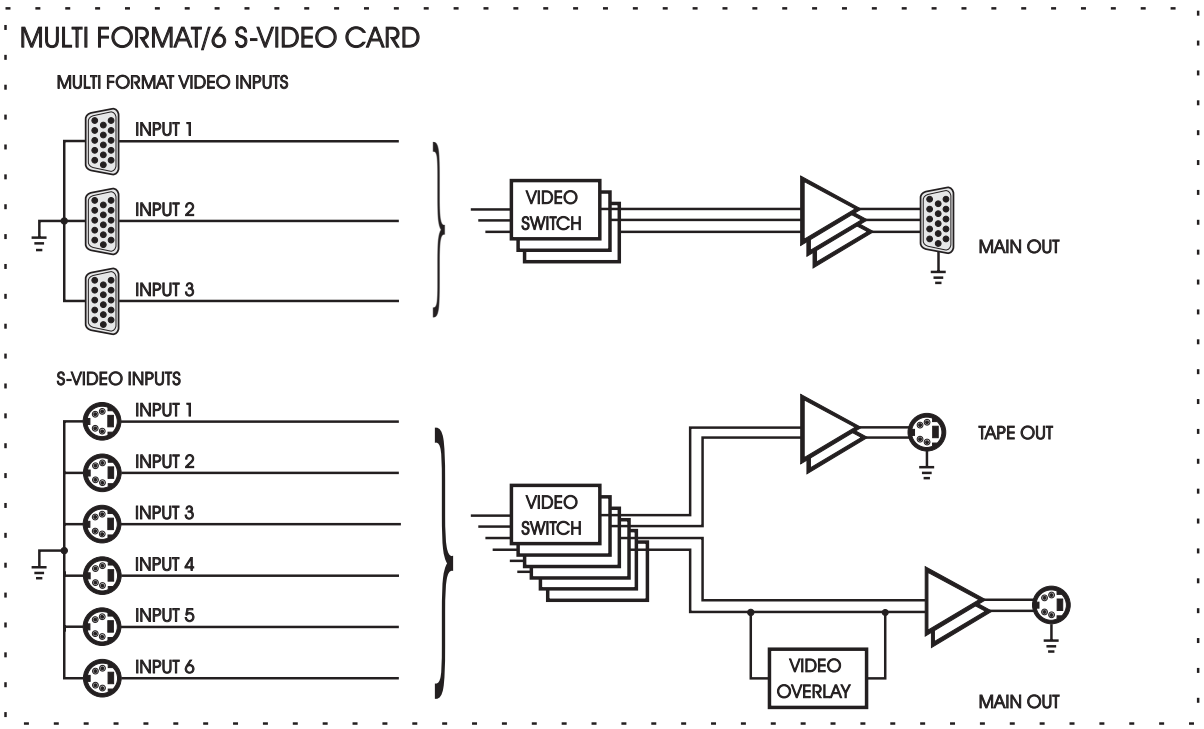


Figure 3 - Block Diagram of Multi Format/6 S-Video Switching Card

Casablanca III Block Diagram – DAC, Analog & Digital Out Sections

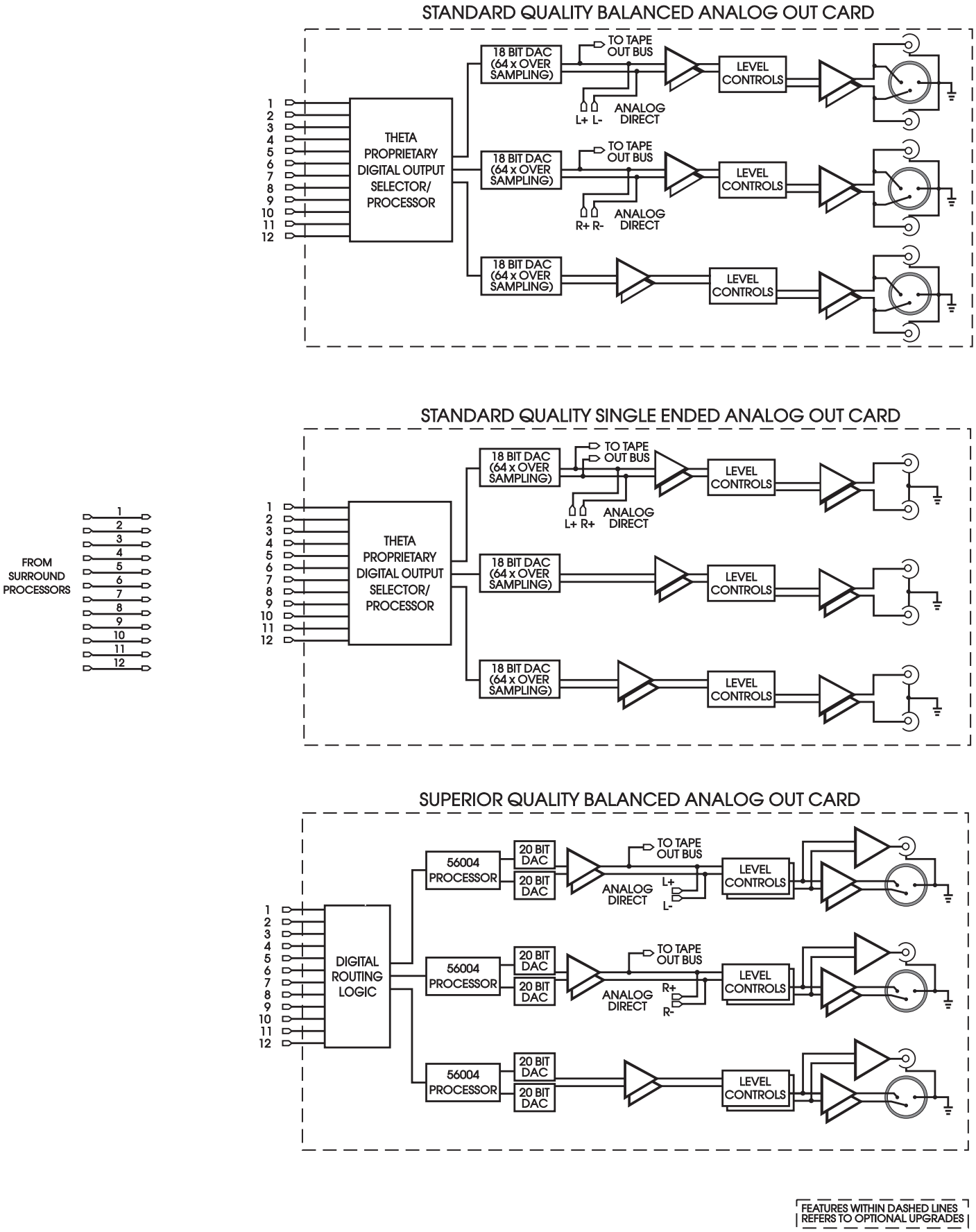


Figure 4 - Block Diagram of Standard & Superior 1 DAC boards

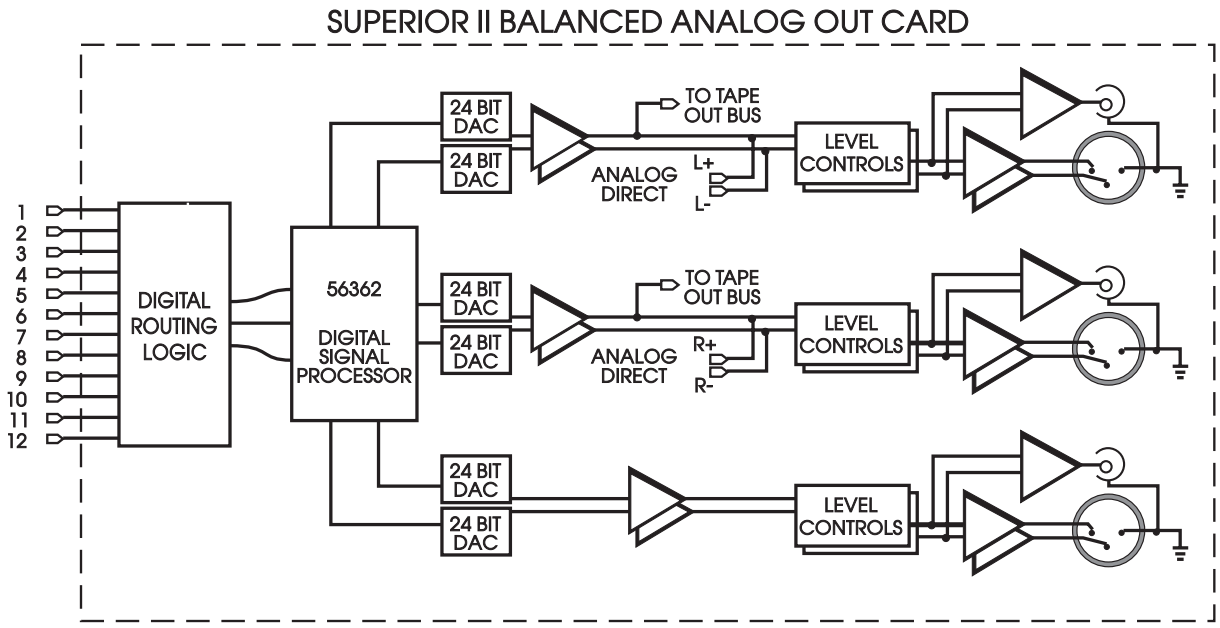


Figure 5 - Block Diagram of Superior II DAC board

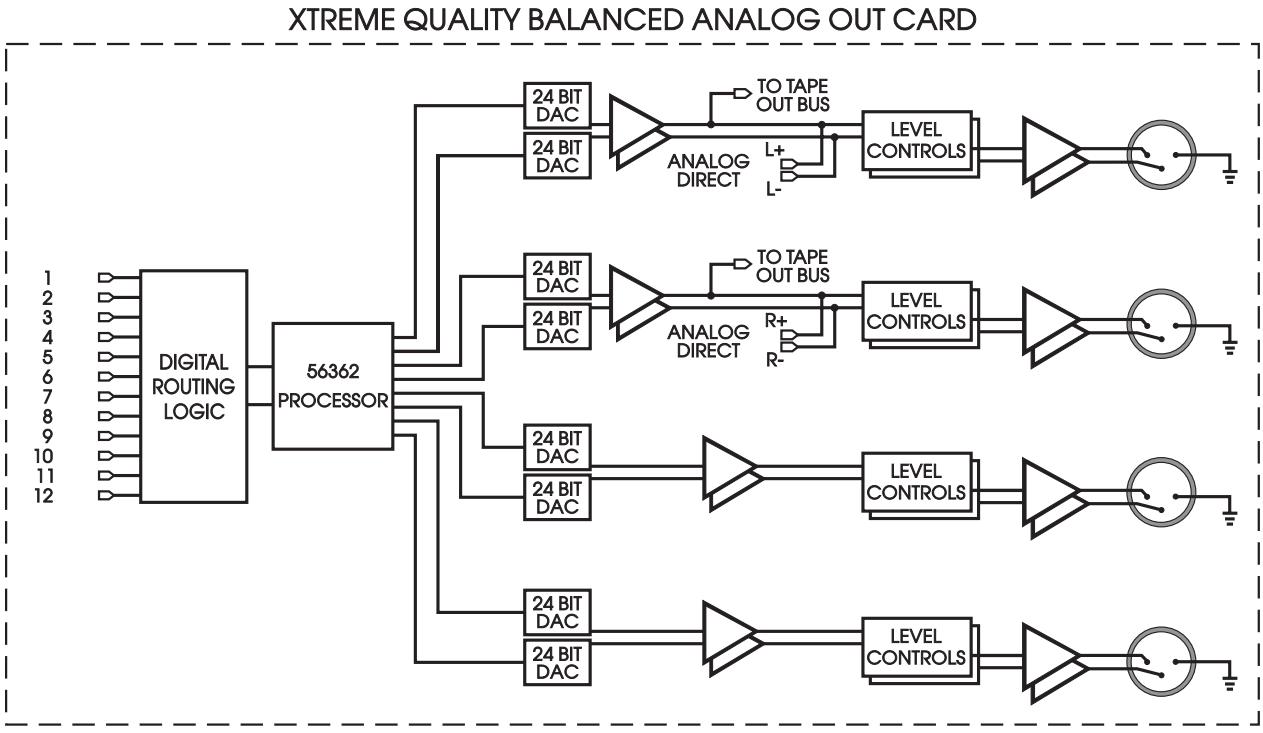


Figure 6 - Block Diagram of Xtreme 4-Channel DAC board

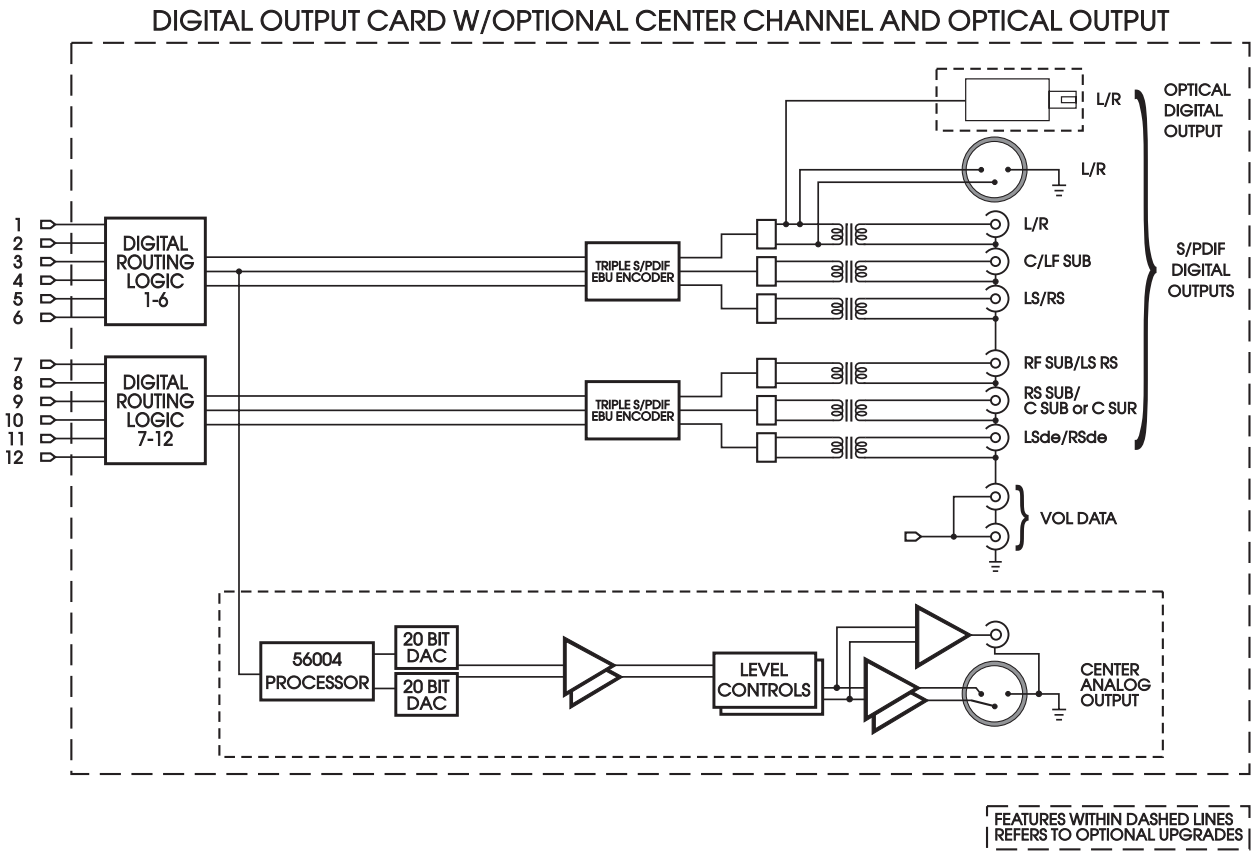


Figure 7 - Block Diagram of Digital Output board, showing all options

Front Panel Layout

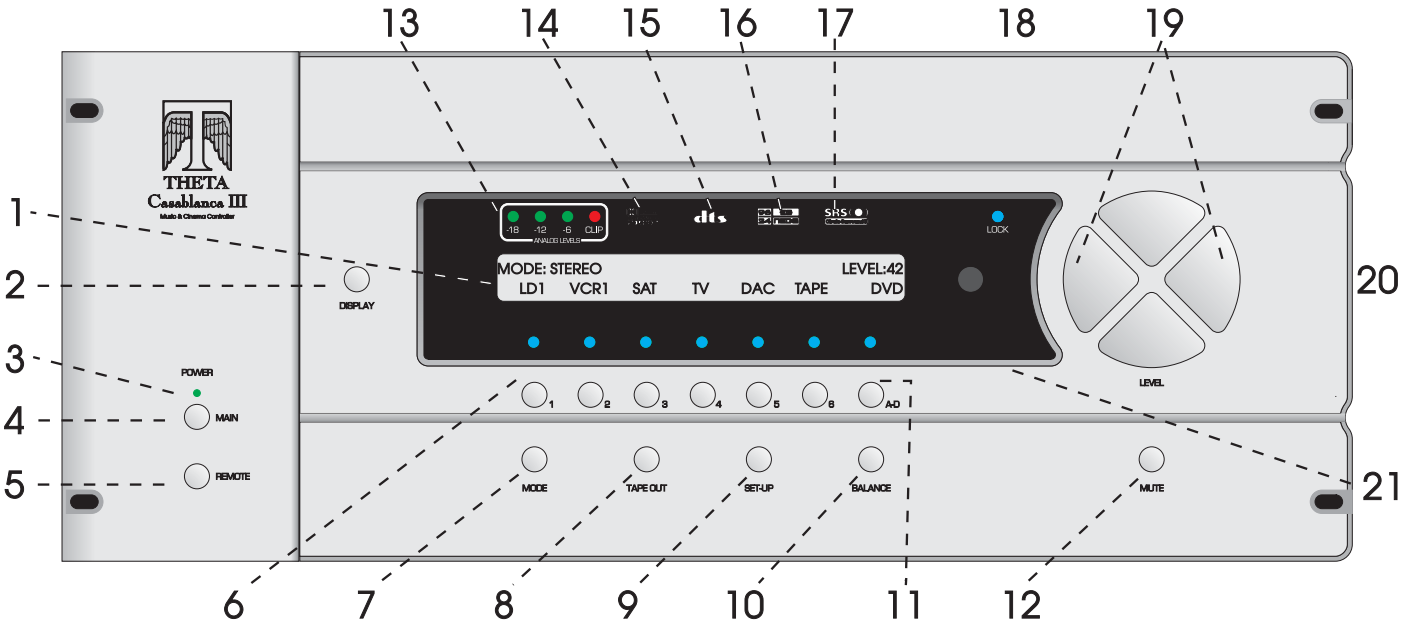


Figure 8 - Front Panel Layout

1. 40 character by 2 row blue vacuum florescent display **(VFD).**
2. **DISPLAY** button. Temporarily overrides the VFD brightness display setting in the **SETUP**/**INP** page 1 submenu.
3. **POWER** LED. Lights when the Casablanca III is in standby mode.
4. **MAIN POWER** button. After the rear panel **MAIN POWER** switch is turned on, press the front panel **POWER** button to exit standby mode. The VFD will display the last selected **INPUT SELECT** menu. Pressing this button again will place the Casablanca III into standby mode and the LED above the front panel **POWER** button will light.
5. **REMOTE POWER** button. Activates/deactivates the **REMOTE POWER** jack on the rear panel.
6. Buttons **1** through **6.** Used to select a desired input on **INPUT SELECT** pages, or parameter to change when in a submenu. The LED over the button lights when the button is pressed. These buttons are referred to as the **INPUT SELECT** buttons.
7. **MODE** button. Activates the **MODE** select menus for the currently selected input. Allows the user to temporarily override the default **MODE** for the current **INPUT**. Will not show modes that are automatically selected.
8. **TAPE OUT** button. Used for routing audio and video **INPUT** signals to the **TAPE OUT** jacks.
9. **SET-UP** button. Used for setting speaker configurations/levels/delays, analog input levels, naming inputs, setting the display & remote power jack time-out delays, selecting between NTSC and PAL video sources and accessing additional surround parameters, and all other **SETUP** functions.
10. **BALANCE** button. Sets temporary speaker balance configurations, shelf EQ, and analog input levels to compensate for different program characteristics.
11. **A-D** button. Sequences through input jacks mapped (assigned) to the active **INPUT SELECT** button.
12. **MUTE** button. Mutes/unmutes all audio outputs with the exception of the **TAPE OUT** jacks.
13. **ANALOG LEVEL** display. Shows input level, in **dB**, of currently selected analog input.
14. **Dolby Pro Logic IIx, Dolby Digital and Dolby EX** indicator. Lights when the Dolby Pro Logic IIx, Dolby Digital and Dolby EX features are installed. It will go out when the display is turned off.
15. **DTS -1** indicator. Lights when DTS is installed. It will go out when the display is turned off.
16. **DTS ES, DTS Neo:6 and DTS 96/24** indicator. Lights when these DTS features are installed. It will go out when the display is turned off.
17. **Circle Surround II** Indicator. Lights when the Circle Surround II feature is installed. It will go out when the display is turned off.
18. **LOCK** light. Lights when a valid digital signal is detected on the selected input.
19. **LEVEL LEFT** and **RIGHT** buttons. Shifts audio balance to the left and right when the **BALANCE** function is selected, adjusts the master volume within submenus when the **LEVEL UP**/**DOWN** buttons are to be used for parameter value editing, used to toggle between the 2 input select pages, shifts to the next character when editing names.
20. **LEVEL UP** and **DOWN** buttons. Increases/decreases master volume. Also used to increment/decrement values in most edit modes, and shifts **FRONT**/**REAR** audio balance in **BALANCE** submenu.
21. **1** through **6** LED indicators. Light when buttons **1** through **6** are selected.

Rear Panel Layout

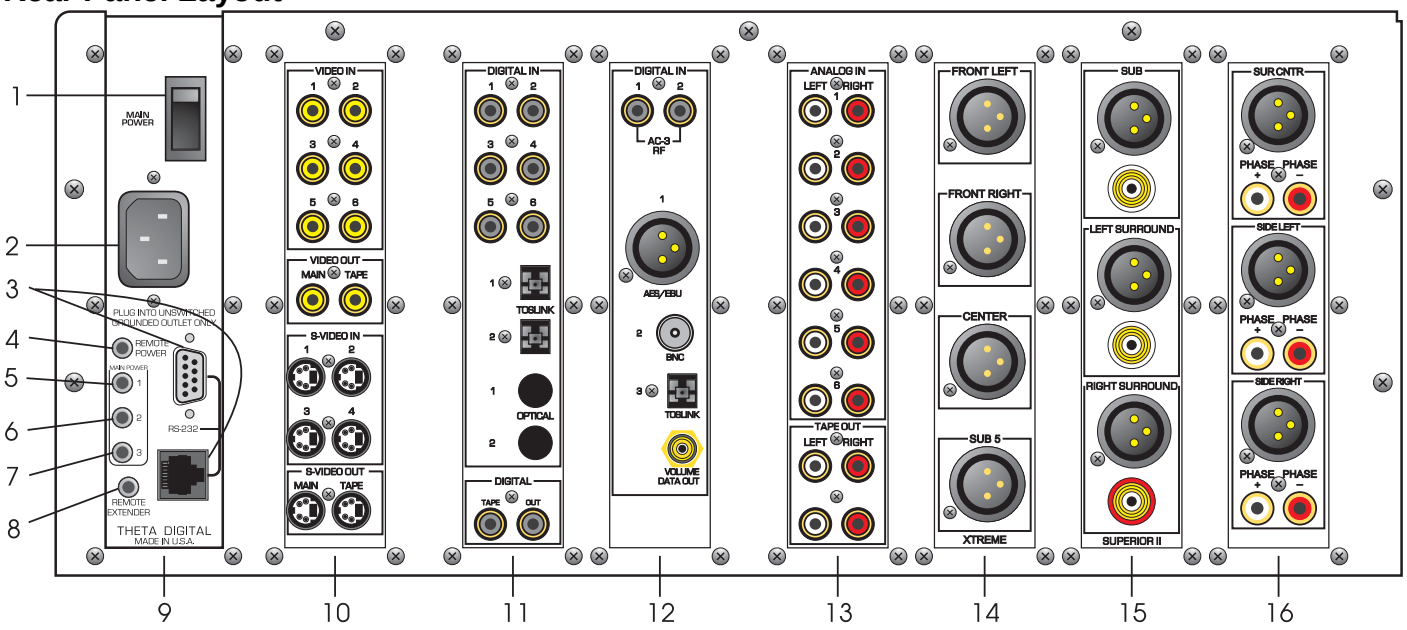


Figure 9 - Rear Panel Layout

1. **Main Power Switch.** Master power switch. Disconnects AC to all circuits. It is recommended that this be left ON at all times during regular use, except when cables are connected/disconnected or when the unit will not be used for an extended period of time.
2. **AC Power** connector: 3 wire, IEC 320 connector with an EMI filter.
3. **RS232** DB9 and RJ45 connectors. A Casablanca upgraded to a Casablanca III has only the DB9 connector, on the Main Digital Input board.
4. **Remote Power** jack. Activated/deactivated when associated front panel or remote button is pressed/pressed again.
5. **Main Power 1** jack. Activated/deactivated when front panel **POWER** button is pressed/pressed again. All Main Power jacks can output a 12V pulse (variable duration) or continuous 12VDC.
6. **Main Power 2** jack. Activated when front panel **POWER** button is pressed once, plus x seconds. *X* represents the time value that is stored in the **SET-UP/GLOBAL/REM PWR/MTIM** parameter. This jack is deactivated when the front panel **POWER** button is pressed again (putting the Casablanca III in Standby mode).
7. **Main Power 3** jack. Activated when front panel **POWER** button is pressed once, plus two times *x* seconds. *X* represents the time value that is stored in the **SET-UP/GLOBAL/REM PWR/MTIM** parameter. This jack is deactivated when the front panel **POWER** button is pressed again (putting the Casablanca III in Standby mode).
8. **Remote Extender** jack. An externally mounted (remote) Infrared (IR) receiver plugs into this miniature stereo phone jack. (Its signal must be demodulated). Please refer to Appendix C on page 122 for additional information.
9. **Power Supply Module**.
10. **Video Card**. This optional card, necessary for on-screen display, provides six composite RCA and four S-Video inputs, all assignable to any input select button. Video inputs are routed to the video tape output jack using the **TAPE OUT** button. Only S-Video input signals can be present at the S-Video **Main** and/or **Tape** outputs. Another option for this slot is a video card containing 8 S-Video inputs with 2 main and 2 tape outs. A third option is a video card with 3 multi format inputs and 1 output, as well as 6 S-Video inputs with an S Main and Tape output. On this video switching card, OSD is available only on the S-Video Main output.
11. **Main Digital Input** card. Six Coaxial (RCA) and two TosLink inputs are provided for digital audio signals in the S/PDIF format at 32K, 44.1K 48K or 96KHz sampling rates. There are two open spaces provided for optional AT&T optical input module(s). There are two RCA digital Tape Out connectors on this card whose digital source can be selected in the **TAPE OUT** menu.
12. **Auxiliary Digital Input** card. This card provides two RCA Dolby Digital (AC-3) RF inputs, one AES/EBU (balanced XLR) input, one BNC and one TosLink input. There is one Volume Data Out port.
13. **Analog Input** card. Six stereo RCA inputs are provided for line level analog output devices such as VCR, laserdisc, CD and DAT players, phono preamplifiers, external D/A converters, tape decks, AM/FM tuners, etc. There are two pairs of analog tape outs for recording purposes, whose source can be selected in the **TAPE OUT**

menu.

14. First **Analog Output** card. This slot could contain one of the following: A four-channel Xtreme quality DAC (pictured), a six-channel standard quality single-ended D/A card (left, right, center, sub, left surround and right surround), or a three-channel balanced card (left, right and center). A balanced card can be either standard or superior quality. All 3-channel balanced cards also have single-ended outputs; the standard card has a plus and minus single-ended output for each channel whereas the superior quality balanced cards are equipped with one gold plated single-ended output jack on each channel. The Xtreme card does not have single-ended outputs. The channel sets that can be routed to a Superior II or Xtreme card (in any DAC slot) are listed on pages 12 and 13 respectively, as well as in the specifications section of this manual.
15. Second **Analog Output** card. This slot could contain one of the following options: A four-channel Xtreme quality DAC card; a three-channel standard quality balanced card, a three-channel superior quality balanced card (pictured) or a six-channel single-ended standard quality card. If only two 3-channel balanced analog output cards are installed, this slot would typically contain outputs for sub, left surround and right surround channels.
16. Third **Analog Output** card. This slot could contain either a four-channel balanced Xtreme quality card; a 3-channel standard quality balanced card (pictured), a 3-channel superior quality balanced card, or a 6-channel single-ended standard quality card.

* * *

A Digital Output card can be installed in any available slot. This card has 12 digital output channels and comes with or without a center analog output channel. An optional AT&T optical output can be installed for the front left and right channels.

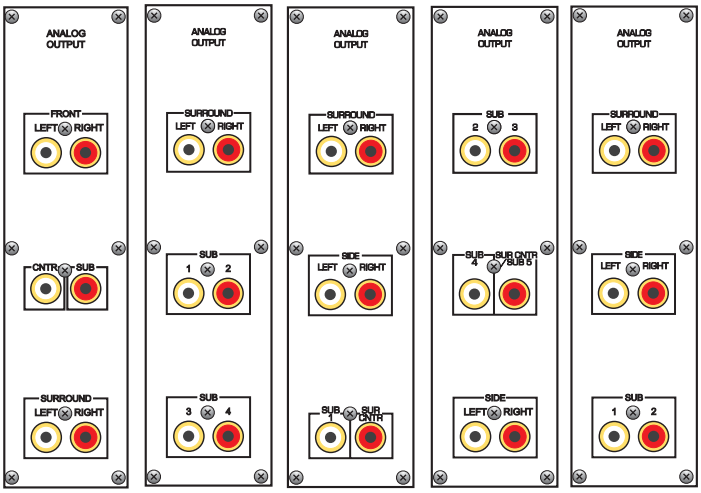


Figure 10 - All Single-Ended D/A Card Configuration Options

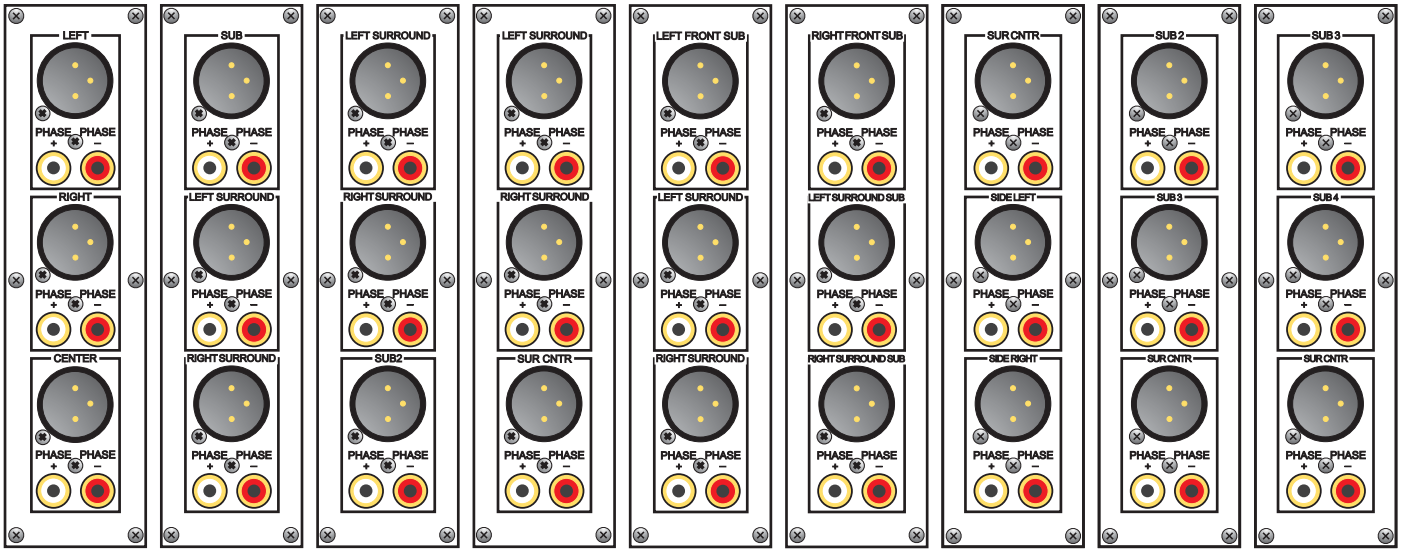


Figure 11 - All Standard Balanced D/A Card Configuration Options

Figure 12 - All Superior D/A Card Options and the Digital Output card with Center Channel

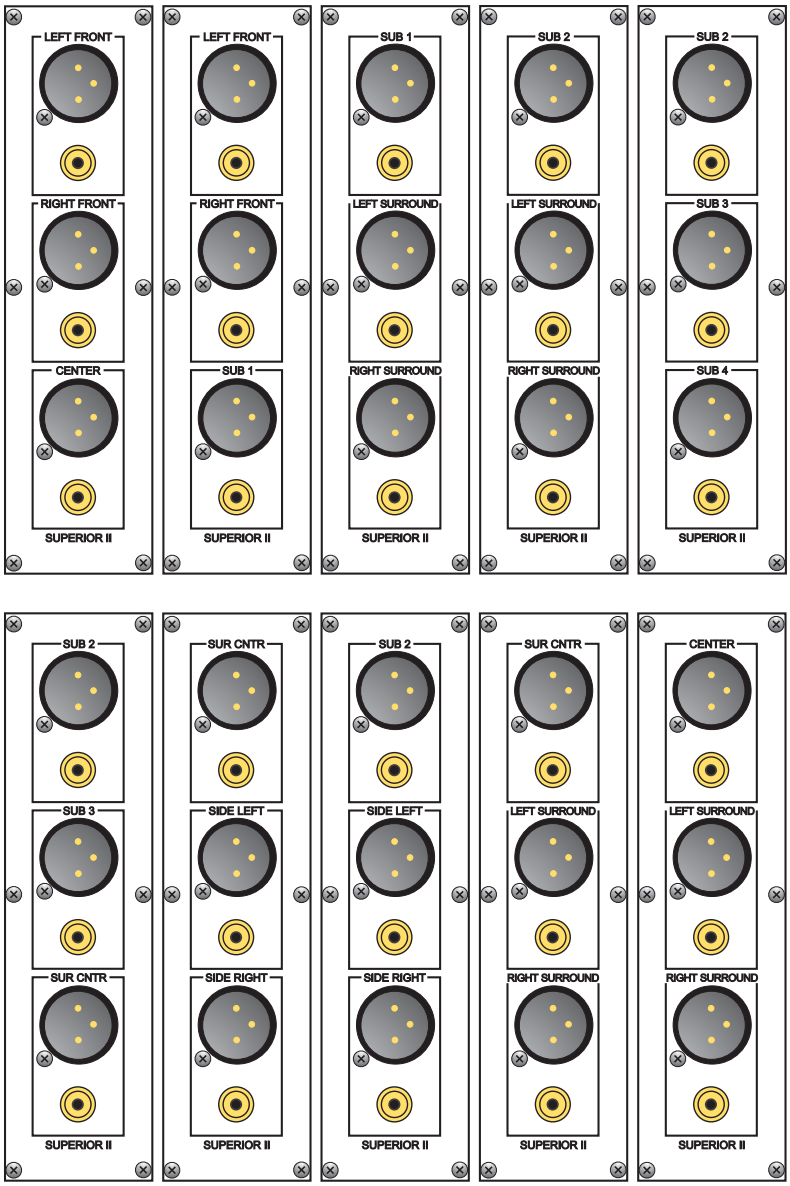


Figure 13 - All Superior II D/A Card Options

Each Xtreme DAC card can have one of the following speaker sets (channels) assigned to them, regardless of which DAC slot it (they) are installed to:

Front Left, Right, Center, Surround Center or Sub 5
Front Left, Right, Side Left, Right
Sub 1, Sub 2, Sub 3, Sub 4
Side Left, Right, Sub 3, Sub 4
Front Left, Right, Sub 1, Sub 2
Surround Left, Right, Sub 1, Sub 2
Surround Left, Right, Sub 2, Sub 3
Front Center, Sub 1, Sub 2, Sub 3
Front Center, Sub 1, Surround Left, Right
Front Left, Right, Surround Left, Right
Surround Left, Right, Side Left, Right
Front Left, Right, Center, Sub 1
Sub 1, Sub 2, Sub 3, Surround Center or Sub 5
Surround Left, Right, Center or Sub 5, Sub 1
Surround Left, Right, Center or Sub 5, Sub 2
Front Center, Surround Center or Sub 5, Surround Left, Right
Front Center, Surround Center or Sub 5, Side Left, Right
Sub 2, Sub 3, Sub 4, Surround Center or Sub 5
Front Left, Right, Center, Sub 2
Front Left, Right, Center, Sub 3
Front Left, Right, Center, Sub 4
Sub 2, Sub 3, Side Left, Right
Sub 2, Surround Center or Sub 5, Side Left, Right
Front Center, Surround Left, Right, Sub 2
Front Center Side Left, Right, Sub 2

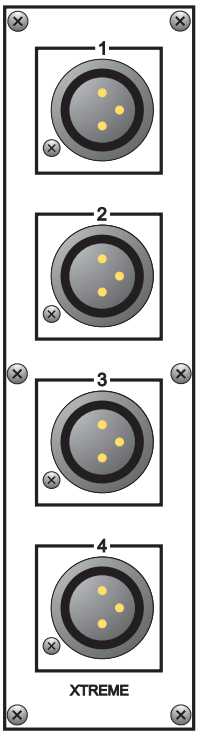
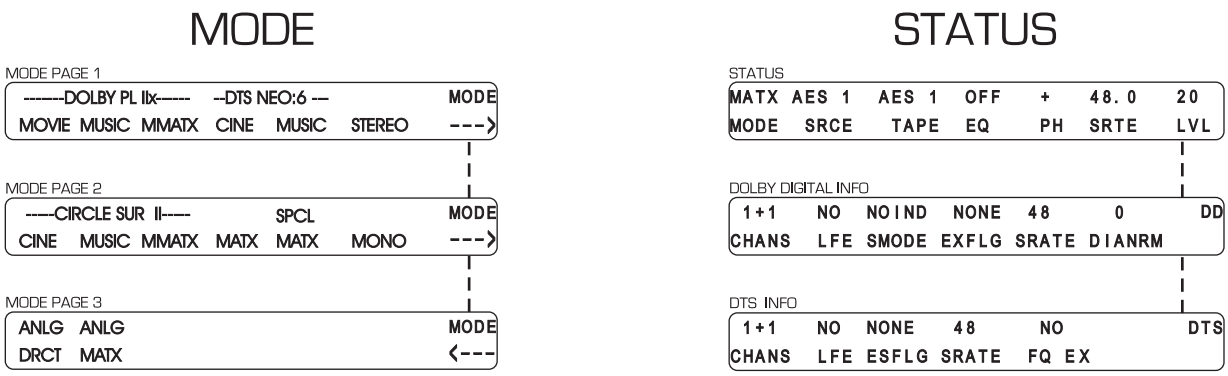


Figure 14 - Xtreme DAC

Note: In figure 14, each output is shown with a number 1-4. Channel labels are available to better identify each output.

Menu Maps

Function Menus and Pages


MODE
MODE PAGE 1
-------DOLBY PL IIx------ --DTS NEO:6 --- MODE
MOVIE MUSIC MMATX CINE MUSIC STEREO --->
MODE PAGE 2
-----CIRCLE SUR II----- SPCL MODE
CINE MUSIC MMATX MATX MATX MONO --->
MODE PAGE 3
ANLG ANLG MODE
DRCT MATX <---
STATUS
STATUS
MATX AES 1 AES 1 OFF + 48.0 20
MODE SRCE TAPE EQ PH SRTE LVL
DOLBY DIGITAL INFO
1+1 NO NOIND NONE 48 0 DD
CHANS LFE SMODE EXFLG SRATE DIANRM
DTS INFO
1+1 NO NONE 48 NO DTS
CHANS LFE ESFLG SRATE FQ EX
BALANCE
BALANCE PAGE 1
FRONT REAR LEFT RIGHT
>>>>>>>O<<<<<<< >>>>>>>O<<<<<<< --->
BALANCE PAGE 2
0 0 OFF 0 BALANCE 2
CEN SUB EQ ANLVL <---
TAPE OUT
TAPE OUT
COAX3 VID1 MAIN TAPE
AUDIO VIDEO DAC ANLG=MAIN

Input Select Pages

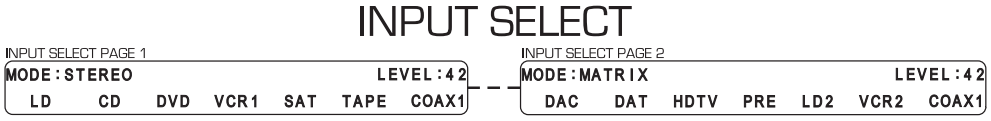

INPUT SELECT
INPUT SELECT PAGE 1
MODE:STEREO LEVEL:42
LD CD DVD VCR1 SAT TAPE COAX1
INPUT SELECT PAGE 2
MODE:MATRIX LEVEL:42
DAC DAT HDTV PRE LD2 VCR2 COAX1

Figure 15 - Mode, Status, Balance, Tape Out Menus and Input Select Pages

Setup Menus and Pages

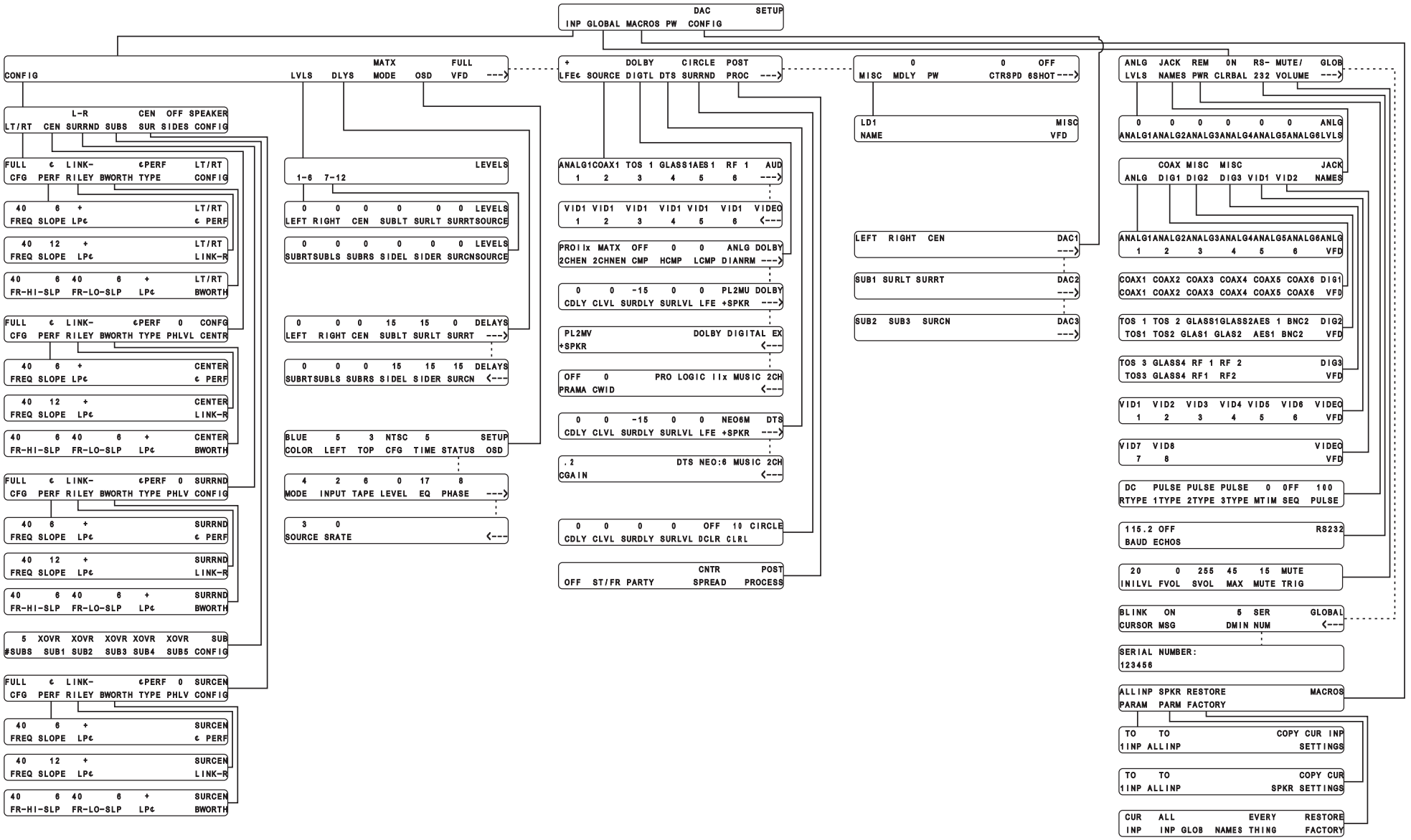

DAC SETUP
INP GLOBAL MACROS PW CONFIG
CONFIG MATX FULL LVLS DLYS MODE OSD VFD --->
+ DOLBY CIRCLE POST
LFE¢ SOURCE DIGTL DTS SURRND PROC --->
0 0 OFF
MISC MDLY PW CTRSPD 6SHOT --->
ANLG JACK REM ON RS- MUTE/ GLOB
LVLS NAMES PWR CLRBAL 232 VOLUME --->
L-R CEN OFF SPEAKER
LT/RT CEN SURRND SUBS SUR SIDES CONFIG
LEVELS
1-6 7-12
ANALG1COAX1 TOS 1 GLASS1AES1 RF 1 AUD
1 2 3 4 5 6 --->
LD1 MISC
NAME VFD
0 0 0 0 0 0 ANLG
ANALG1ANALG2ANALG3ANALG4ANALG5ANALG6LVLS
COAX MISC MISC JACK
ANLG DIG1 DIG2 DIG3 VID1 VID2 NAMES
FULL ¢ LINK- ¢PERF LT/RT
CFG PERF RILEY BWORTH TYPE CONFIG
0 0 0 0 0 0 LEVELS
LEFT RIGHT CEN SUBLT SURLT SURRTSOURCE
VID1 VID1 VID1 VID1 VID1 VID1 VIDEO
1 2 3 4 5 6 <---
LEFT RIGHT CEN DAC1
---> --->
ANALG1ANALG2ANALG3ANALG4ANALG5ANALG6ANLG
1 2 3 4 5 6 VFD
40 6 + LT/RT
FREQ SLOPE LP¢ ¢ PERF
0 0 0 0 0 0 LEVELS
SUBRTSUBLS SUBRS SIDEL SIDER SURCNSOURCE
PROIIx MATX OFF 0 0 ANLG DOLBY
2CHEN 2CHNEN CMP HCMP LCMP DIANRM --->
SUB1 SURLT SURRT DAC2
---> --->
COAX1 COAX2 COAX3 COAX4 COAX5 COAX6 DIG1
COAX1 COAX2 COAX3 COAX4 COAX5 COAX6 VFD
40 12 + LT/RT
FREQ SLOPE LP¢ LINK-R
0 0 -15 0 0 PL2MU DOLBY
CDLY CLVL SURDLY SURLVL LFE +SPKR --->
SUB2 SUB3 SURCN DAC3
---> --->
TOS 1 TOS 2 GLASS1GLASS2AES 1 BNC2 DIG2
TOS1 TOS2 GLAS1 GLAS2 AES1 BNC2 VFD
40 6 40 6 + LT/RT
FR-HI-SLP FR-LO-SLP LP¢ BWORTH
0 0 0 15 15 0 DELAYS
LEFT RIGHT CEN SUBLT SURLT SURRT --->
PL2MV DOLBY DIGITAL EX
+SPKR <---
TOS 3 GLASS4 RF 1 RF 2 DIG3
TOS3 GLASS4 RF1 RF2 VFD
FULL ¢ LINK- ¢PERF 0 CONFG
CFG PERF RILEY BWORTH TYPE PHLVL CENTR
0 0 0 15 15 15 DELAYS
SUBRTSUBLS SUBRS SIDEL SIDER SURCN <---
OFF 0 PRO LOGIC IIx MUSIC 2CH
PRAMA CWID <---
VID1 VID2 VID3 VID4 VID5 VID6 VIDEO
1 2 3 4 5 6 VFD
40 6 + CENTER
FREQ SLOPE LP¢ ¢ PERF
0 0 -15 0 0 NEO6M DTS
CDLY CLVL SURDLY SURLVL LFE +SPKR --->
VID7 VID8 VIDEO
7 8 VFD
40 12 + CENTER
FREQ SLOPE LP¢ LINK-R
.2 DTS NEO:6 MUSIC 2CH
CGAIN <---
DC PULSE PULSE PULSE 0 OFF 100
RTYPE 1TYPE 2TYPE 3TYPE MTIM SEQ PULSE
40 6 40 6 + CENTER
FR-HI-SLP FR-LO-SLP LP¢ BWORTH
BLUE 5 3 NTSC 5 SETUP
COLOR LEFT TOP CFG TIME STATUS OSD
115.2 OFF RS232
BAUD ECHOS
4 2 6 0 17 8
MODE INPUT TAPE LEVEL EQ PHASE --->
FULL ¢ LINK- ¢PERF 0 SURRND
CFG PERF RILEY BWORTH TYPE PHLV CONFIG
0 0 0 0 OFF 10 CIRCLE
CDLY CLVL SURDLY SURLVL DCLR CLRL
20 0 255 45 15 MUTE
INILVL FVOL SVOL MAX MUTE TRIG
40 6 + SURRND
FREQ SLOPE LP¢ ¢ PERF
3 0
SOURCE SRATE <---
CNTR POST
OFF ST/FR PARTY SPREAD PROCESS
BLINK ON 5 SER GLOBAL
CURSOR MSG DMIN NUM <---
40 12 + SURRND
FREQ SLOPE LP¢ LINK-R
SERIAL NUMBER:
123456
40 6 40 6 + SURRND
FR-HI-SLP FR-LO-SLP LP¢ BWORTH
ALLINP SPKR RESTORE MACROS
PARAM PARM FACTORY
5 XOVR XOVR XOVR XOVR XOVR SUB
#SUBS SUB1 SUB2 SUB3 SUB4 SUB5 CONFIG
TO TO COPY CUR INP
1INP ALLINP SETTINGS
FULL ¢ LINK- ¢PERF 0 SURCEN
CFG PERF RILEY BWORTH TYPE PHLV CONFIG
TO TO COPY CUR
1INP ALLINP SPKR SETTINGS
40 6 + SURCEN
FREQ SLOPE LP¢ ¢ PERF
CUR ALL EVERY RESTORE
INP INP GLOB NAMES THING FACTORY
40 12 + SURCEN
FREQ SLOPE LP¢ LINK-R
40 6 40 6 + SURCEN
FR-HI-SLP FR-LO-SLP LP¢ BWORTH

Figure 16 - Setup Menus and Pages

Introduction to the User interface

WARNING !! : PLEASE READ FIRST!

In the **SETUP** menu, the **PW** button allows the user to password protect the entire **SET-UP** function. In the **SETUP/INPUT** ***page 3*** submenu, the **PW** button allows the user to password protect the currently selected input. When any **PW** button is selected, a prompt will be displayed asking the user if they are sure they want to change the current password (**YES** or **NO**). If **YES** is selected, the current password will be displayed, prompting the end-user to change the current password. The password does not have to be changed at this point, the same numbers that are currently displayed can be entered, using buttons **1**-**6** and/or **A-D**. Pressing **A-D** enters a zero. A password containing at least one zero is null, meaning no password. Therefore, to remove a password, press **A-D** at least once.

Please note that there are no passwords programmed into the Casablanca III when it is initially shipped.

PLEASE REMEMBER and/or WRITE DOWN YOUR PASSWORDS! If it/they are forgotten, all access to password protected areas will be denied!

The menu system within the Casablanca III consists of 1 to 3 layers, with the exception of the **SET-UP** menu. Some menus have multiple pages, which can be accessed by pressing the **A/D** button, with the exception of the **INPUT SELECT** menu, which uses the **LEFT**/**RIGHT** buttons. When a menu has additional pages associated with it, a right or left arrow will be displayed in the bottom right corner of the VFD. Please refer to figures 15 and 16 for an overall view of all menus, submenus and menu pages.

The **SETUP** menu contains a number of submenus, organized by setup function. All configuration parameters which can be stored for each **INPUT SELECT** button (by input). They are accessed in one of the 3 **SETUP**/**INPUT** submenus. Setup parameters that are not stored individually for each **INPUT SELECT** button are accessed in the two **SETUP**/**GLOBAL** submenus. All macros can be executed via the **SETUP**/**MACROS** submenu.

Once a parameter is selected for editing, pressing the **LEVEL UP**/**DOWN** buttons edits the parameter value, storing it at the same time. On any page, if the **LEVEL UP**/**DOWN** buttons are not used for editing a parameter value, they will adjust the master volume. Where the **LEVEL UP**/**DOWN** buttons are used for editing a parameter value, the **LEVEL LEFT**/**RIGHT** buttons will adjust the master volume. An exception to this is the first **BALANCE** page and the pages where input select buttons and input jacks are named. In a few cases, such as the **MODE** and **POST PROCESS** menus, simply pressing the **1**-**6** buttons makes a selection.

The function buttons are defined as the **MODE**, **TAPE OUT**, **SET-UP**, and **BALANCE** buttons. To exit a function the same function button can be pressed multiple times to exit, or another function button can be pressed at any time.

Before you begin

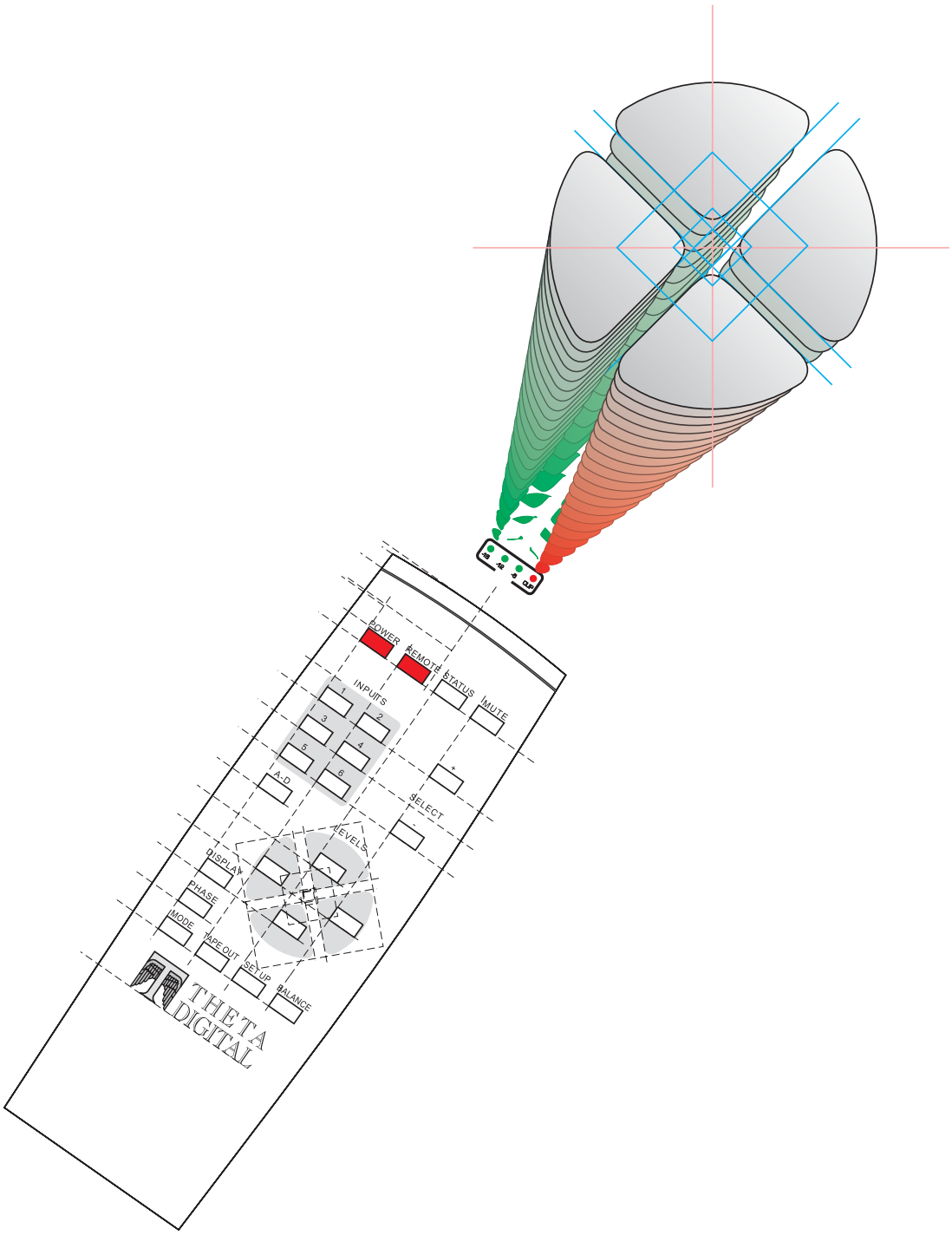
With all input options installed in a Casablanca III, there are up to 32 input jacks: 6 pairs of stereo analog audio, 14 digital audio, 2 AC-3 RF, 6 composite video and 4 S-video. If the optional 8 S-Video input card is installed, then there will be 8 S-Video inputs and no composite video inputs. If the optional Multi Format/6 S-Video board in installed, then there will be 3 Multi format video inputs and 6 S-video inputs. Each jack can be named for the piece of equipment plugged into it. It is recommended that this step be done first. (**SETUP**/**GLOBAL/JACK NAMES**) or using the *Crystal* PC software. No OSD, or on screen menus will exist when using the 15 pin multi format video output.

Each **INPUT SELECT** button can have up to 6 audio and 6 video jacks mapped, or assigned. The **INPUT SELECT** button should be named for the function it will serve. There are a total of 12 **INPUT SELECT**s on two pages. Pressing the **LEVEL LEFT**/**RIGHT** buttons will toggle between these two pages of 6 inputs each.

The procedure for setting up each INPUT SELECT is outlined in the *Step-By-Step Setup* section.

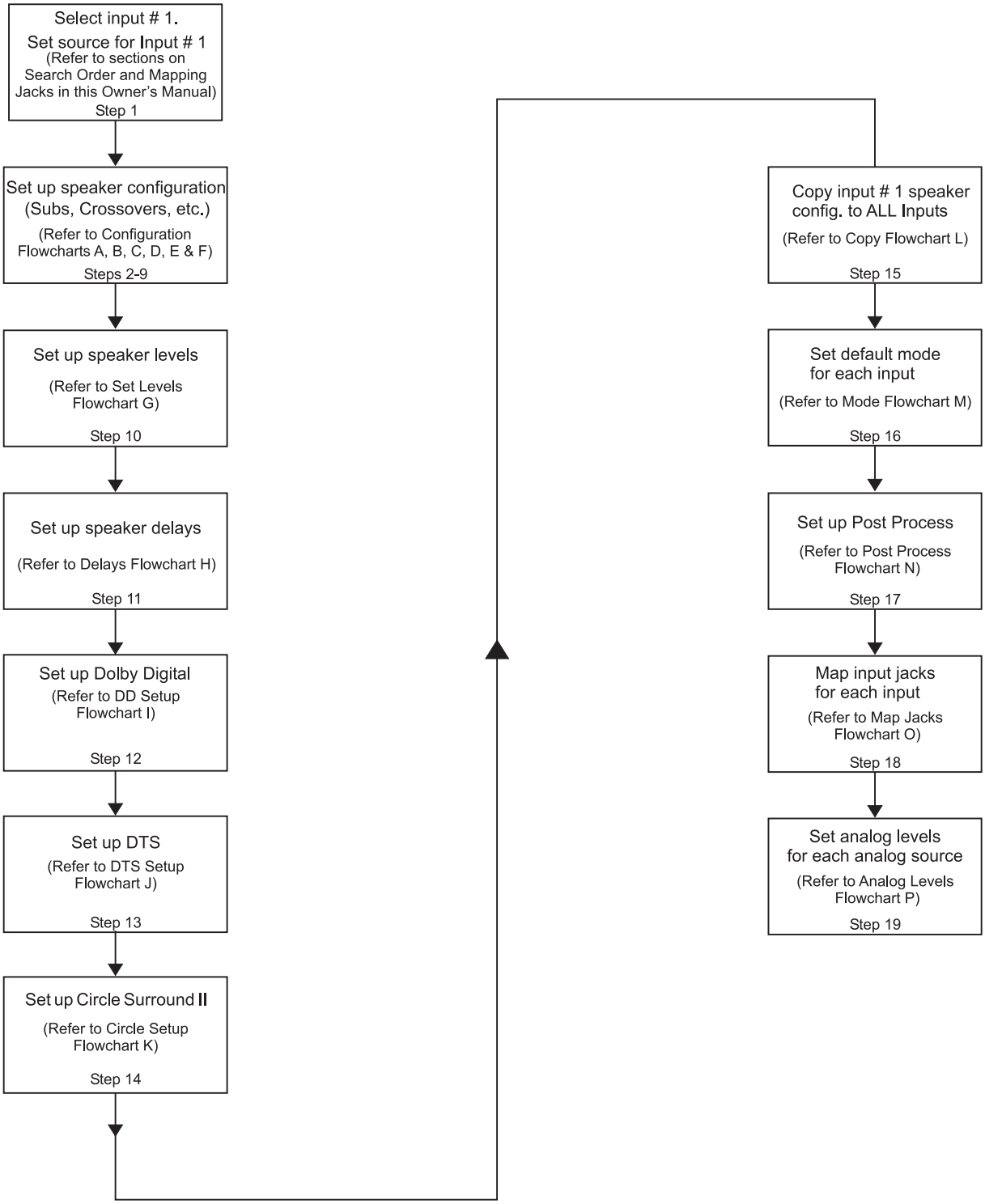
Note: The order in which input jacks are assigned to an **INPUT SELECT** button determines the search order. Please refer to page 44 for additional information on source assignment (search order). When more than one input jack is assigned to a single **INPUT SELECT** button, toggling the **A-D** button [when the **INPUT SELECT** page is active in the front panel display] will select the next assigned input jack – both audio and video.

STEP-BY-STEP SETUP GUIDE



Casablanca III Overall Setup Procedure Flowchart

This flowchart shows all steps required to set up the Casablanca III in order to achieve the best possible sonic performance and to provide the simplest operation for all users. Instructions and detailed flowcharts for each step are contained on the following pages.


Select input # 1.
Set source for Input # 1
(Refer to sections on Search Order and Mapping Jacks in this Owner's Manual)
Step 1
Set up speaker configuration (Subs, Crossovers, etc.)
(Refer to Configuration Flowcharts A, B, C, D, E & F)
Steps 2-9
Set up speaker levels
(Refer to Set Levels Flowchart G)
Step 10
Set up speaker delays
(Refer to Delays Flowchart H)
Step 11
Set up Dolby Digital
(Refer to DD Setup Flowchart I)
Step 12
Set up DTS
(Refer to DTS Setup Flowchart J)
Step 13
Set up Circle Surround II
(Refer to Circle Setup Flowchart K)
Step 14
Copy input # 1 speaker config. to ALL Inputs
(Refer to Copy Flowchart L)
Step 15
Set default mode for each input
(Refer to Mode Flowchart M)
Step 16
Set up Post Process
(Refer to Post Process Flowchart N)
Step 17
Map input jacks for each input
(Refer to Map Jacks Flowchart O)
Step 18
Set analog levels for each analog source
(Refer to Analog Levels Flowchart P)
Step 19

Step by Step Speaker Configuration

Casablanca III provides a comprehensive set of speaker configuration settings. These settings are believed to be the most complete ever offered in a home theater component and should allow any speaker to perform optimally regardless of speaker type. The following procedure is merely a guideline: room acoustics, speaker design/quality, music/film type, and personal preferences all have a part in these settings.

Please note that the menu and parameter names described herein are the ones shown on the front panel VFD and not the OSD (On Screen Display). Using the Setup menu map diagram [Figure 16] on page 15 in this manual is recommended.

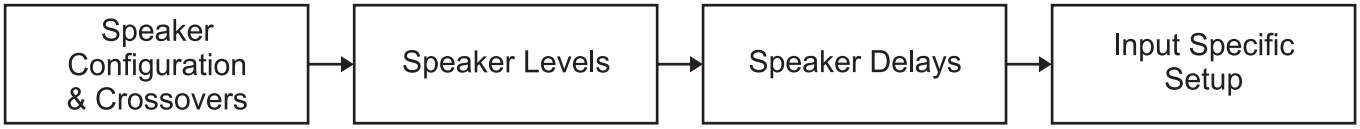
There are four major steps to setting up your Casablanca III. In recommended sequence, they are:

Speaker Configuration & Crossovers: permits proper signal routing in the Casablanca III and proper blending of main and subwoofer signals. Enables all speakers present in the system.

Individual speaker levels: compensates for different speaker and amplifier efficiencies.

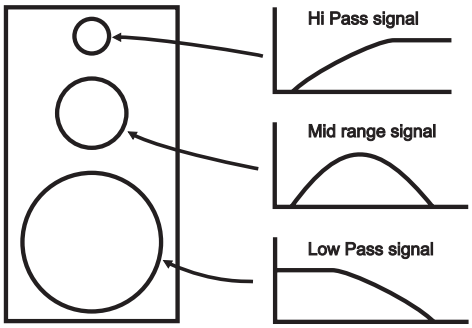
Delays: compensates for different speaker distances from the listening position.

Input Specific Setup: All parameters that are specific to an individual input select button.



Each step plays a pivotal role in the overall sonic performance and should receive equal attention and care in adjustment.

Speaker Configuration & Crossovers



Crossovers are most commonly located in a speaker cabinet. Their purpose is to keep energy at certain frequencies from reaching specific speaker elements (drivers), [e.g. keeping unwanted bass energy from the tweeters (see diagram at right).] Home theater applications use crossovers in the surround processor to send low pass information to a subwoofer and limit the low pass information sent to the main speakers. The purpose of this section, **SPEAKER CONFIGURATION**, is to properly set up the Casablanca III's internal crossovers for optimal sound as well as enable all speakers in the system.

In this manual, a Speaker Set is defined as one or more speakers that are manipulated via a common parameter. For example, the crossover parameters for both the front left and right speakers are manipulated in the front left/right configuration submenu since the desired effect for the left speaker is also appropriate for the right. The other speaker 'sets' in the Casablanca III are the [surround left and right], the [side left and right], the [center] and the [center surround]. The speaker sets will be delimited by [ ].

Full speaker configurations are stored separately for each of the 12 input select buttons. This procedure will guide the user to set all configuration parameters for input # 1, and then copy these parameters to all other input select buttons.

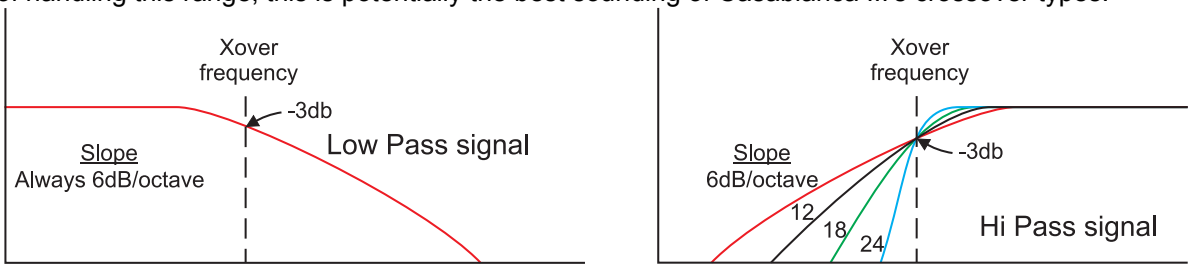
In the Speaker configuration submenu, buttons **1**-**5** will access additional menus to setup a particular speaker or set of speakers. Button **6** will turn on the side speakers, if configured in the system. In each speaker set's configuration submenu, pressing button **# 5** will allow a change of the crossover type for that speaker set. There are three options for the crossover type: "Phase Perfect"; "Butterworth"; and "Linkwitz-Riley". Each crossover type has settings that are applicable only to that type. The Front [Left/Right], [Center], [L-R Surround] and [Center Surround] speaker configuration submenu contains a separate setup submenu for each of the three crossover types. It is recommended that each of the three crossover submenus be set up for each speaker. The user can then audition each crossover type to determine which sounds best on their system.

Following is a description of each crossover type to help the user better understand the sonic advantages of each:

Phase Perfect

This is a term coined for a type of crossover wherein the low pass portion is derived from the high pass. First, a high pass Butterworth crossover is performed. This gives two resulting signals: the high pass and the original, unaltered signal. Then, the high pass signal is subtracted from the original input signal, resulting in the low pass signal, which is usually routed to the subwoofer. An advantage of a Phase Perfect crossover is that if the high and low pass signals are added together, an exact replica of the original input signal results, thus the term "phase perfect". A potentially negative attribute of this type of crossover is that, due to phase relationships and vector mathematics, higher order filters (12, 18, 24 dB/octave) always produce 6dB/octave low pass slopes, in terms of electrical energy sent to the subwoofer. The high pass portion will have the expected 6, 12, 18 or 24 dB /octave slope. Due to this phenomenon,

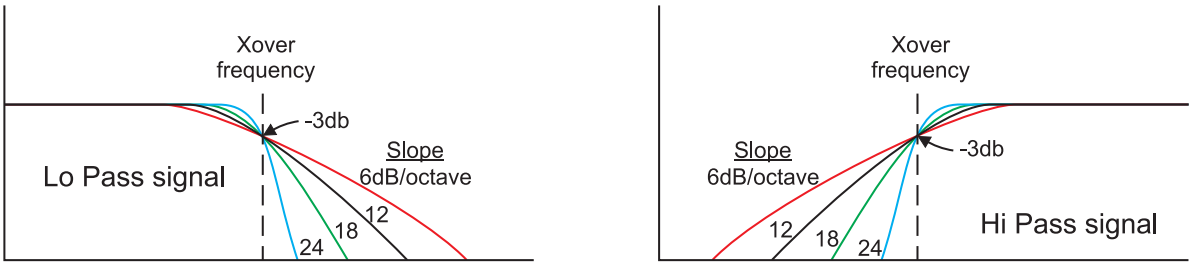
this type of crossover is best suited for subwoofers that can operate linearly up to the 500 Hz range. Please consult your dealer or subwoofer manufacturer to determine if this is suitable for your particular subwoofer. If the subwoofer is capable of handling this range, this is potentially the best sounding of Casablanca III's crossover types.



Phase Perfect Crossover Diagram

Butterworth

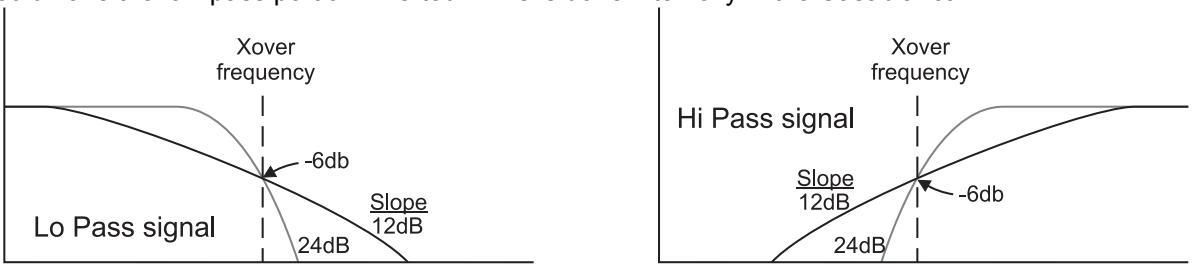
This is the most common type of crossover used in home theater, speakers and outboard electronic crossovers. Separate high and low pass slopes and crossover frequencies may be set for speaker sets [Left/Right], [Center], [Surround Left / Surround Right] and [Center Surround]. (The [Sides] duplicate the configuration and crossover parameters for the [L/R Surround] speakers). As with Phase Perfect and Linkwitz-Riley crossovers, it is possible to invert the phase of the low pass for each of these speaker sets. This allows precise tailoring of the subwoofer response to the main speaker's response. A negative attribute of this crossover type is that the high and low pass signals have different phase shifts.



Butterworth Crossover Diagram

Linkwitz-Riley

This type of crossover, developed in 1976 by Siegfried Linkwitz and Russ Riley, eliminates some of the inherent problems of Butterworth filters. Specifically, a Butterworth filter of 12, 18 or 24 dB/octave (or higher) slope exhibits different phase shifts between the high and low pass outputs. A Linkwitz-Riley alignment solves this problem, as it exhibits zero phase difference between outputs at all frequencies. Acoustically, this means that if the sound sources are in proper time-alignment, a smoother frequency response will be realized at the listening position. The Linkwitz-Riley crossover is only applicable to slopes of 12 and 24 dB/octave. A proper Linkwitz-Riley crossover with a 12dB slope should have the low pass portion inverted. This is done internally in the Casablanca III.



Linkwitz-Riley Crossover Diagram

A note on crossovers

Casablanca III's complement of crossover options can at first appear daunting. Most surround sound processors offer a simple selection to set their crossovers: Speaker Small or Speaker Large. These simple settings do not take into account the huge variations in speaker design and room acoustics and more often than not results in non-optimal performance. We offer this rich set of options with the aim of superior performance. With this in mind, following are a few simple suggestions to make this process easier.

A note on home theater

There are a few common misconceptions about home theater and bass reproduction. Chief among them is that the ".1" or "LFE" channel contains most or all of the bass information. This is unequivocally false. The LFE channel contains sound effects such as explosions, rumbling and the like. All other channels (left, center, right, left surround,

right surround) often contain an equal amount of bass. Their bass, however, tends to be more related to the soundtrack, vocal material or localized sources such as a drum beating behind the listener. This is important to understand when setting up crossovers in the coming section.

Another misconception is that the center channel is "fill" and is of minor importance. Again, this is false. The center channel contains the lion's share of important information (particularly dialog) in the cinematic experience. It is critical that the center speaker be of the highest quality possible and special attention be given to its mounting and positioning.

* * *

Speaker Configuration & Crossovers – Con't.

1) Select Input # 1.

Connect a digital source to Coaxial Input 1 jack and verify that the input jack mapping is correct, i.e if the digital source is connected to the coax input jack **# 1**, press the **A-D** button until **COAX 1** appears in the VFD above the **A-D** button.

2) With Input button # 1 selected:
   a) Go to the **SUB CONFIG** submenu.
   b) Set #**SUBS** to the number of sub woofers that are configured into the system.
   c) If no subwoofer is present, set #**SUBS** to **0**. The subwoofer Full Range/Crossover setting has no effect in this case.

Note: You will now be directed to set up crossovers as if a sub were present. There are some general rules that the Casablanca III follows in the special case of no subwoofers:

Case 1 - The front left/right speaker configuration is set to **FULL**:

If the center speaker is set to "crossover" its low pass signal will be sent to the left/right channels.

If the surround left/right and or the surround center speaker configuration is set to "crossover" its low pass signal will be sent to the front left/right speakers only if the mode is Dolby Digital or DTS.

Case 2 – The surround left/right speaker configuration is set to **FULL**:

If the center surround speaker is set to "crossover" its low pass signal will be sent to the left/right surround channels.

Case 3 - The front left/right configuration setting is **XOVER** or **FUL/LP**:

Any speaker that is set to crossover will lose its low pass signal. The front center will route its low pass signal to the front left/right speakers if the center configuration setting is **XOVERLR**).

3) Determine if the subwoofer needs to be sent a crossed over signal or a full range signal:
   a) It is preferable to defeat the subwoofer's internal crossover and set **SUB** to **XOVER**. The crossovers in the Casablanca III have been engineered to be superior to any analog crossover, regardless of quality.
   b) If the sub woofer's internal crossover cannot be defeated set the **SUB** to **FULL**.
   c) If the sub woofer must be sent a full range signal, set the crossover frequency on the sub woofer's internal crossover to match that of the speaker set that is crossed over in the Casablanca III. Example:
      i) If the front left/right speaker set is crossed over to 60Hz, begin by setting the sub woofer's internal crossover frequency at 60Hz and in the Casablanca III, set the slope to match that of the sub woofer's slope when performing step # 8g. (Refer to the sub woofer's documentation to determine its slope).
      ii) If multiple speaker sets are crossed over at different frequencies some experimentation will be required with the crossover frequency of the sub woofer. The same applies if the slopes are set differently for each speaker set. Begin by setting the subwoofer's frequency and slope to match the [front left/right] values. Experiment with the subwoofer's crossover frequency by moving it towards the crossover frequency of the [center], if installed.

4) Determine which speaker sets ([Front left/right], [Center], [left/right Surrounds], [center surround]) need crossovers.
   a) If no speaker set is present, the **CFG** setting should be **PHANTOM** or **OFF**. If there are no side speakers, the sides should be set to **OFF**.
   b) When a speaker set is set to **PHANTOM**, its signal is not lost. If the front center speaker is set to **PHANTOM**, the center channel signal will be routed to the front left/right speakers; if the surround center speaker is set to **PHANTOM**, surround channel signals will be re-routed to the surround left/right speakers. These re-routed signals can be adjusted in volume using the Phantom Level (**PHLV**) parameter. Begin with the phantom level parameter at **0** and make fine adjustments after the setup is complete.

It is preferable that none of the speakers need a crossover, but is rarely practical. Keep in mind that with a 5.1 signal (Dolby Digital or DTS), any speaker can be confronted with a full amplitude signal at any frequency. Generally speaking, the smaller the speaker, the more limited its bass capabilities. If a speaker set doesn't need to be crossed over, that speaker sets' configuration (**CFG**) setting should be **FULL**. Another possible option is Full range with low pass (**FUL/LP**). With this setting, the speaker will be sent the full range signal, and a duplicate low pass signal is sent to the subwoofer to augment its low bass performance. If all speaker sets are set to "**FULL**

RANGE" or "**PHANTOM**", the following section (Steps 5-9) on setting crossovers may be skipped.

5) Determine whether or not the subwoofer can handle frequencies as high as 500Hz. If literature included with the subwoofer does not state this specification, call your dealer or subwoofer manufacturer. Commonly only top-of-the-line subwoofers meet this requirement.
6) If the subwoofer does meet the above requirement, first try the "**PHASE PERFECT**" crossover type.
7) If the subwoofer cannot handle frequencies as high as 500Hz, first try the "**LINKWITZ-RILEY**" crossover type.
8) Using a 2-channel CD, do the following for each of the three speaker sets (**LT/RT**, **CEN**, **SURRND**):
    a) Go to that speaker sets' configuration menu.
    b) Determine if this speaker set can handle a full range signal.
    c) If the speaker sets' specification is -3dB at higher than 50 Hz, set the **CFG** to **XOVER**.
    d) If the speaker sets' specification is -3dB at 35-50Hz, set the **CFG** setting to **FUL/LP**.
    e) If the speaker sets' specification is -3dB at 20 Hz, set the **CFG** setting to **FULL**.
    f) Set the crossover frequency in the Phase Perfect submenu. If a suck-out appears (lack of bass energy), then try increasing the setting. If the transition to the sub becomes obvious, a lower frequency is recommended.
    g) Set the crossover slope in the Phase Perfect submenu. Generally, the smaller the bass driver or the fewer the bass drive units, the steeper the required slope. A gentler slope (6dB, 12 dB / octave) is normally less intrusive and provides better blending of the main speakers into the sub. Some sub woofers can sound "tubby" with too shallow of a slope. A steeper slope (18dB, 24dB / octave) can provide greater dynamic range and clearer dialog.
    h) Try both settings of low pass phase. The correct setting is the one that produces the clearest, most solid bass.
    i) Repeat steps f, g and h for the Linkwitz-Riley and Butterworth crossovers, for each speaker set. In the Butterworth crossover submenu, it is recommended that the high crossover frequency and slope be set to the same values as the low crossover frequency and slope.
    j) Set the crossover type for each speaker set.
9) In the [Center] submenu, the center channel's low pass signal may be routed to the [front left/right] channels instead of the usual subwoofer routing (**XOVRLR**). This is useful for center channels that have extremely limited low frequency response, i.e –3dB cutoff point around 120 Hz. Using this crossover type is an excellent tool to increase the intelligibility of dialog.

Speaker Levels

Setting up the speaker levels is best accomplished using the Casablanca III's internal noise generator and an SPL meter. If the meter has 'weighting' options, "C" is preferable.

10) With Input # 1 selected, go to the speaker levels submenu.
    a) Activate the noise in the front left speaker. All speaker levels should be referenced to the front left and right speaker levels, whose reference levels should start at **0**.
    b) Holding the SPL meter close in front of the user's face, bring up the master volume (using the **LEVEL LEFT/RIGHT** buttons) until the SPL meter reads 75dB.
    c) Activate the noise in the front right speaker and, holding the SPL meter in the same position, adjust the speaker level up/down until the SPL meter reads 75dB.
    d) Repeat this procedure for the center speaker.
    e) Activate noise in the left surround speaker. Hold the SPL meter close to the left ear, point it towards the left surround speaker, and adjust the level until the SPL meter reads 75dB.
    f) Activate noise in the right surround speaker. Holding the SPL meter close to the right ear, adjust the level until the SPL meter reads 75dB.
    g) Activate noise in the left side speaker. Holding the SPL meter close to the left ear, adjust the level until the SPL meter reads 75dB.
    h) Activate noise in the right side speaker. Holding the SPL meter close to the right ear, adjust the level until the SPL meter reads 75dB.
    i) Activate noise in the center surround speaker. Holding the SPL meter close to the left, then right ear, adjust surround center speaker level until the SPL meter reads 75dB.
    j) Activate noise in Sub1 and point the SPL meter toward the sub woofer. Adjust the **SUB** level until the SPL meter reads 75dB. Note that there is greater margin for error due to the low frequency output of the sub woofer. Listening to a familiar passage and fine tuning the sub level(s) by ear in the final adjustments will be required.
    k) Activate noise in Sub 2, if configured into the system, and point the SPL meter toward the sub woofer. Adjust the **SUB** level until the SPL meter reads 75dB.
    l) Activate noise in Sub 3, if configured into the system, and point the SPL meter toward the sub woofer.

Adjust the **SUB** level until the SPL meter reads 75dB.

m) Activate noise in Sub 4, if configured into the system, and point the SPL meter toward the sub woofer. Adjust the **SUB** level until the SPL meter reads 75dB.

n) Activate noise in Sub 5, if configured into the system, and point the SPL meter toward the sub woofer. Adjust the **SUB** level until the SPL meter reads 75dB.

o) Deactivate the noise generator with the **A-D** button.

Speaker Delays

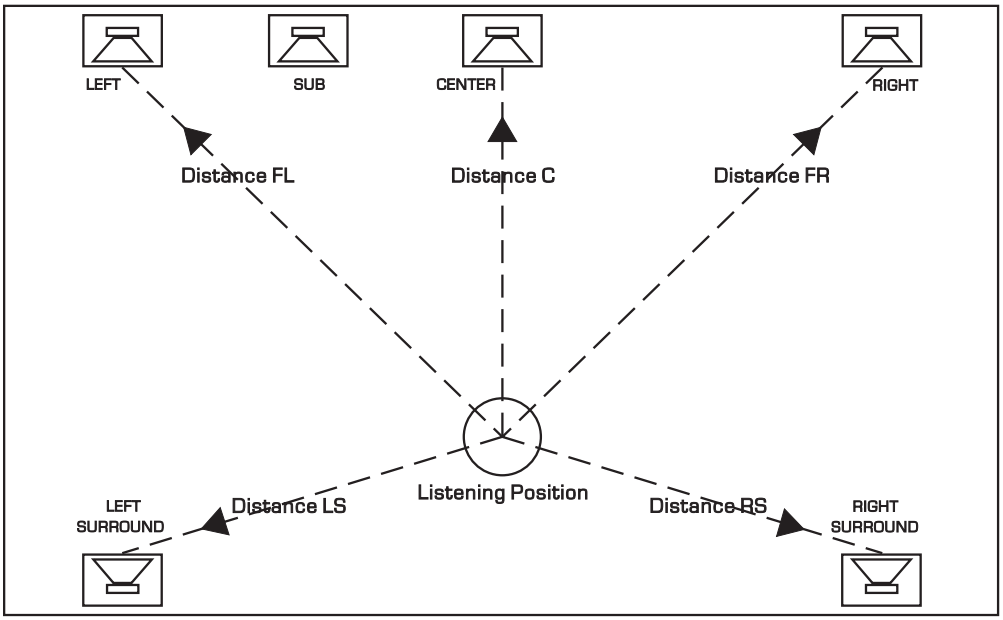
11) With Input # 1 selected, go to the **DELAYS** submenu.

a) If the center speaker is closer to the listening position than the front left and right speakers and cannot be brought to within the same distance of them, leave the front left and right delays at **0** and adjust the **CEN** (center) delay so that its sound arrives at the listener at the same time as the front left and right speakers. The delay value should be 1mS for each foot difference.

b) If the center speaker is farther in distance from the listening position than the front left and right speaker, then set the **CEN** (center) delay to **0** and adjust the front left and right speaker delays so that their sound arrives at the listeners at the same time as the center speaker. The delay value should be 1mS for each foot difference. Please refer to the *Delays* section in this manual for additional details regarding the speaker delay feature and methods of calculating required speaker delay times.

c) If the center speaker is equal distance from the listening position as the front left and right speaker, set the front left and right speaker and center speaker delays at **0**.

d) Using the chart and method contained in the *Delays* section of the Owner's Manual, calculate the delay times for the left and right surround speakers.



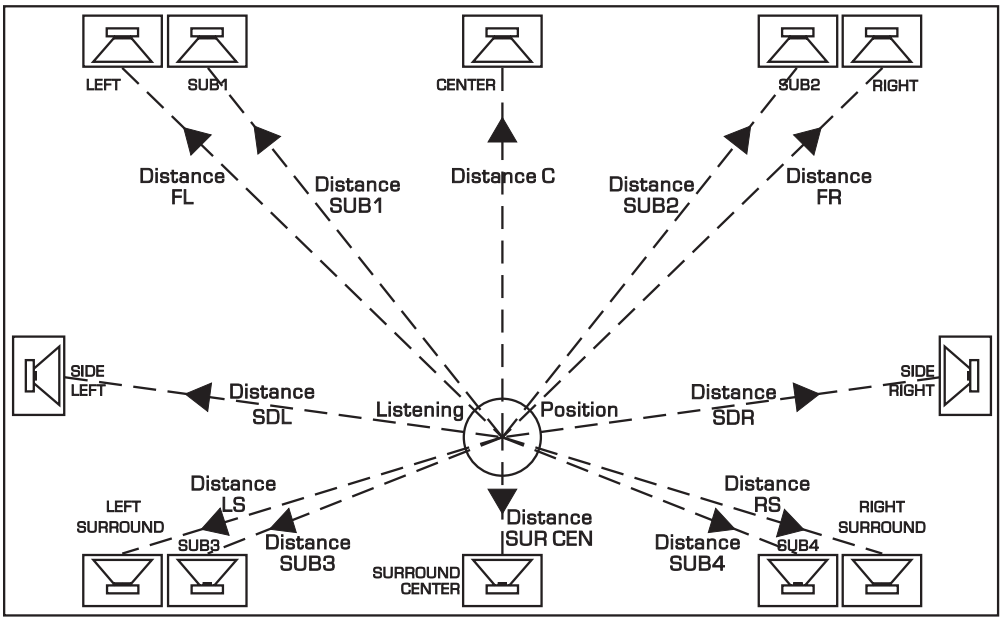
Speakers in a typical 5.1 system

e) Typically the center surround speaker is closer to the listening position than the surround left/right speakers. In this case, it must be delayed so that the sound from all of the surround speakers reaches the listener at the same time. Calculate the difference (distance in feet) between the center surround and one of the left/right surround speakers, to the listening position. Add this difference to the value already set for the left/right surround speakers and use this sum to set the delay value for the center surround speaker. (1 mS per foot of difference).

f) Calculate the difference (distance in feet) between the left side and left front speakers. Add the difference to the default value already set for the left side to give this speaker its new value.

g) Calculate the difference (distance in feet) between the right side and right front speakers. Add the difference to the default value already set for the right side to give this speaker its new value.

h) Because of their low frequency properties, typically a delay in the subwoofer(s) is virtually undetectable. This being the case, it may be appropriate to leave the subwoofer delay values set at 0. However, if any subwoofer is closer to the listening position than the front left/right speakers, a delay value can be set for these subs. The delay value will be the difference (in feet) between the sub itself and the front left or right speaker, to the listening position.



Speakers in a typical 12-channel system

Dolby Digital, DTS and Circle Surround II Setup

The center and left/right surround speaker levels and delays can be different for Dolby Digital and DTS sources, as well as when the Mode is Circle Surround II. There are separate **SETUP** submenus designed just for these modes. When the mode is Dolby Digital, DTS, or Circle Surround, the center and surround delays will work together with changes made in the above **DLYS** submenu. The values of the levels set in the Dolby Digital, DTS and Circle Surround II Setup submenus will be added to (or subtracted from) the level values in the **SETUP**/**INP**/**LVLS** submenu.

12) a) Play a Dolby Digital 5.1 movie.
b) Go to the Dolby Digital setup submenu – page 2.
c) If desired, set the center speaker delay.
d) If desired, set the surround delay.
e) Set the center speaker level and the surround speaker level to 0. Please refer to the *SETUP/Dolby Digital* section in this manual for additional information regarding setting the Dolby Digital center and surround levels.
f) If no subwoofer exists in the system, a setting of **0** will route the LFE to the remaining 5 channels. Only if no **LFE** is desired should this setting be **OFF**. Setting the **LFE** at **–10** [dB] may be desired for late night viewing or if source material may overpower the sub woofer. Setting the **LFE** to **OFF** may be useful for late night viewing, however, please note that any information in the .1 channel will be lost.
g) If the incoming signal is 5.1 and the Sides or Center Surround channels are being used, set the **+SPKR** value to the process which will be used to create the additional channels. This decision will be made solely by listening to which sounds best to the user.
h) Go to the Dolby Digital setup submenu – page 3.
i) If the incoming signal is EX flagged and the Sides or Center Surround channels are being used, set the **+SPKR** value to the process which will be used to create the additional channels. This decision will be made solely by listening to which sounds best to the user.

Remember that these values will be in effect only when the **MODE** is Dolby Digital and specific flags are present.

13) a) Play a DTS encoded CD or movie.
b) Go to the DTS page 1 Setup submenu.
c) If desired, set the center speaker delay.
d) If desired, set the surround delays.
e) Set the center speaker level.
f) Set each surround speaker.
g) Set the **LFE** level at **0** for DTS movies, or **-10** for DTS music. (The user can choose to use two separate input select buttons, one for DTS movies and one for DTS music, all parameter values being the same except for the LFE setting).
h) If the incoming signal is 5.1 and the Sides or Center Surround channels are being used, set the **+SPKR** value to the process which will be used to create the additional channels. This decision will be made solely by listening to which sounds best to the user.

These parameter values apply only when the **MODE** is **DTS**.

14) a) Play a 2-channel CD.
    b) Go to the Circle Surround II Setup submenu.
    c) If desired, set the center and surround speaker delays.
    d) Set the center speaker level and each surround speaker levels.
    e) Set the Dialog Clarity (**DCLR**) **ON** or **OFF**, then set its range.

These parameter values apply only when the **MODE** is one of the three Circle Surround II modes.

Remaining Setup

15) Now that the speaker configuration, crossovers, levels and delays have been set up for input select button #1, they should be copied to all input select buttons as a good starting point. Do this in the **MACROS** submenu when input select **# 1** is the current input.

16) Each input select button has a default mode assigned to it. The default mode for a given input select button is set and stored in the first **SETUP**/**INPUT** page. As the user scrolls through the list of modes, there are 2 positions in this list that are not currently used. In these positions, the word **SKIP** will be displayed.
    a) Press input select button #1.
    b) Go to the **SETUP/INP** – page 1 submenu.
    c) Set the applicable default **MODE**.
    d) Repeat steps b and c for each input select button.

17) An input signal is "processed" a certain way depending on which **MODE** is currently selected. It is possible to further process this signal for specific applications. (For details, refer to the Post Process section of this manual). If it is desired to further process the signal, continue with this step.
    a) With Input # 1 selected, go to the Post Process submenu.
    b) Select a Post Process.
    c) Select Input # 2.
    d) Go to the Post Process submenu.
    e) Select a Post process.
    f) Repeat steps c and d for each input select on which it is desired to have a Post Process.

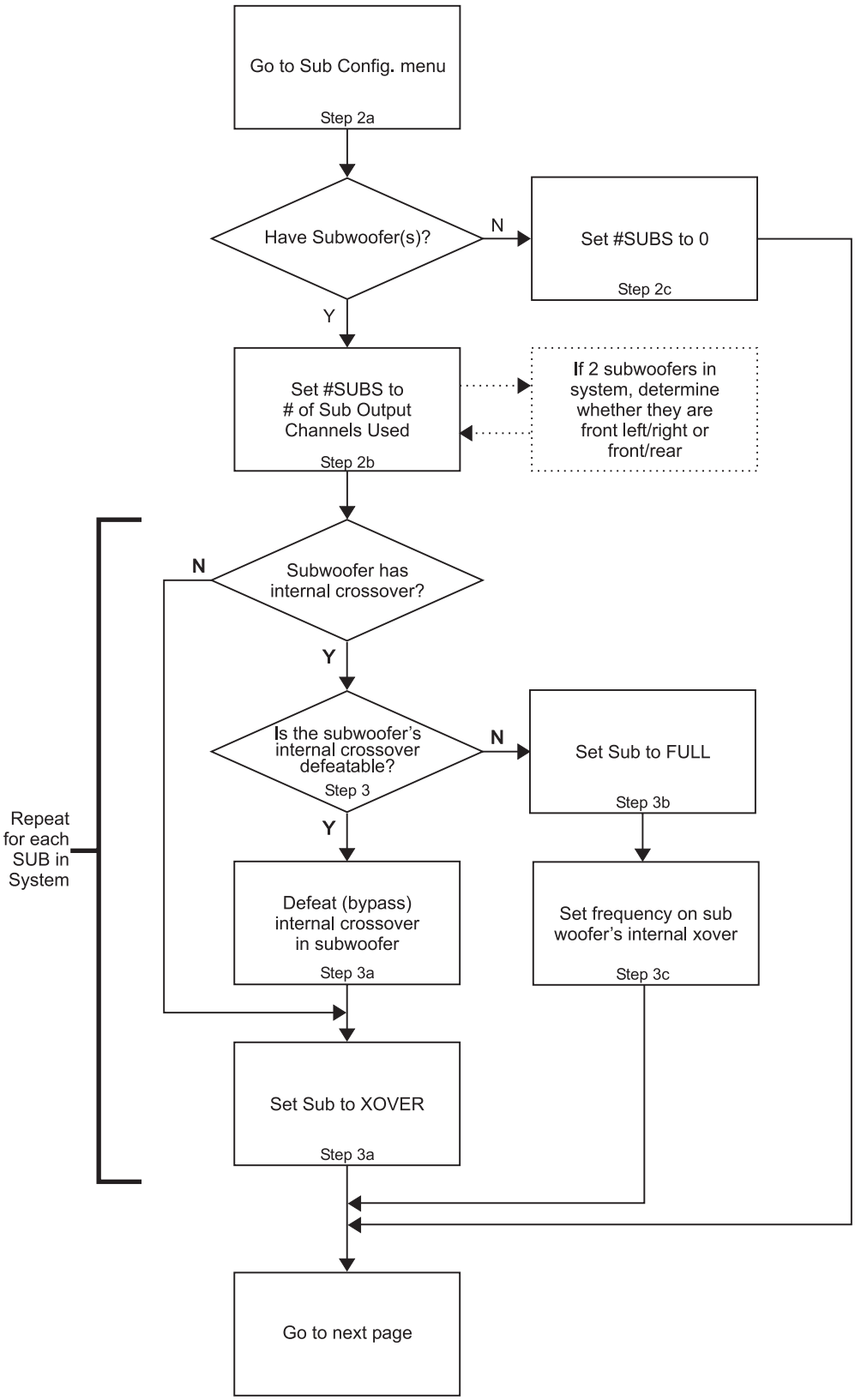
18) The audio and video **SOURCE** pages allow the user to map up to six audio and 6 video input jacks to the currently selected input. It is recommended that all other displayed jacks in this submenu be cleared if they are not to be used. Please refer the *Mapping Jacks* and *Search Order* sections of this manual for additional details about mapping input jacks to a given Input Select button.

    Verify that the desired rear panel audio and video input jacks are properly mapped to each Input Select button that is to be used.
    a) Select input # 1.
    b) Go to the AUDIO **SOURCE** submenu.
    c) Map all appropriate rear panel audio input jacks.
    d) Go to the VIDEO **SOURCE** submenu.
    e) Map all appropriate video input jacks.
    f) Select input # 2.
    g) Repeat steps b through e for all used input select buttons.

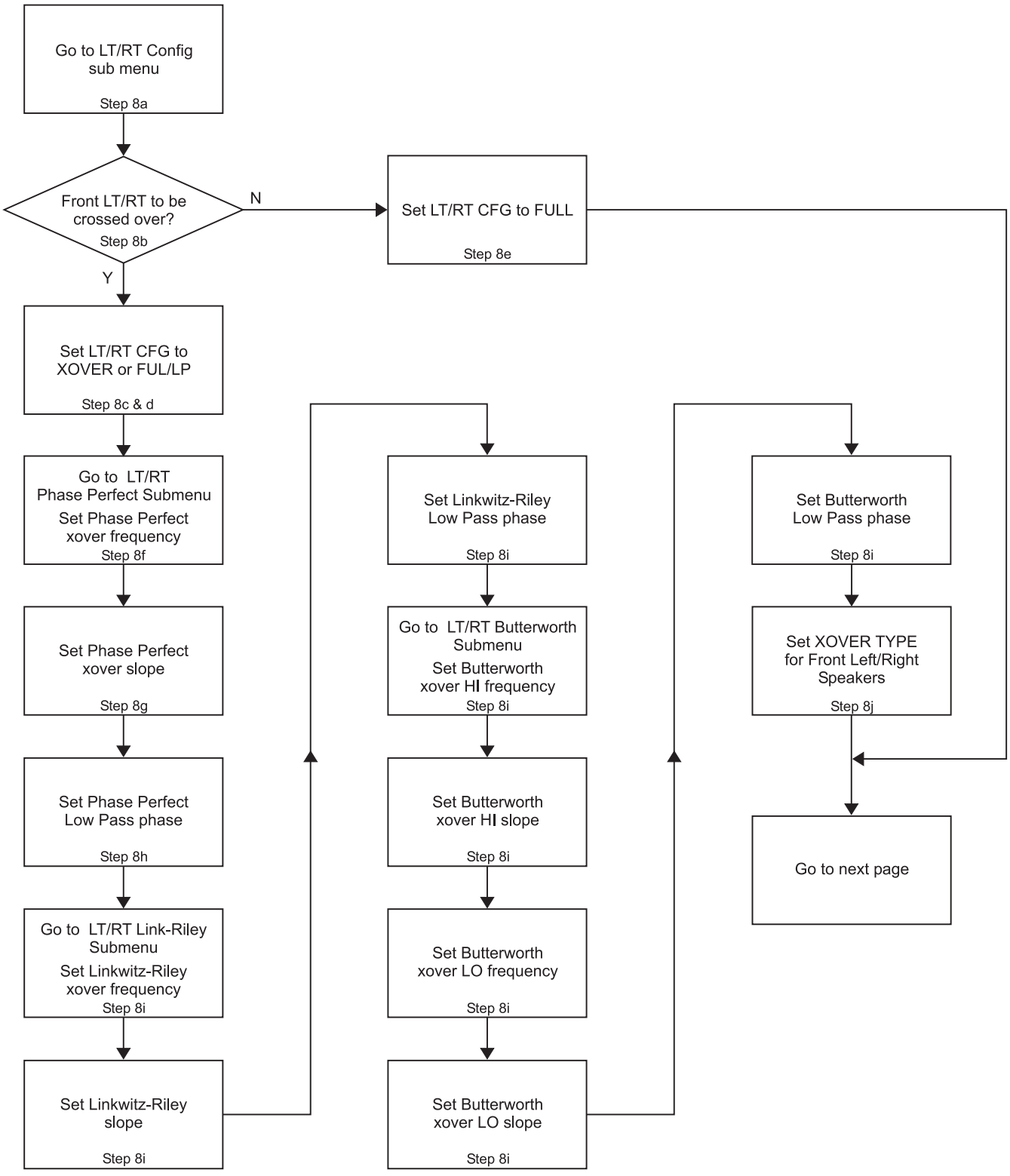
19) All analog sources must have their input levels set in order to obtain the best signal to noise ratio as well as to ensure that no clipping occurs.
    a) Go to the **ANALOG LEVELS** submenu.
    b) Select the first set of jacks with an analog input jack assigned to it.
    c) Adjust the analog input level.
    d) Repeat steps b and c for each analog source.

Make adjustments so that during the most aggressive passages, the red clip light never comes on, but the –6 or –12 lights are on.

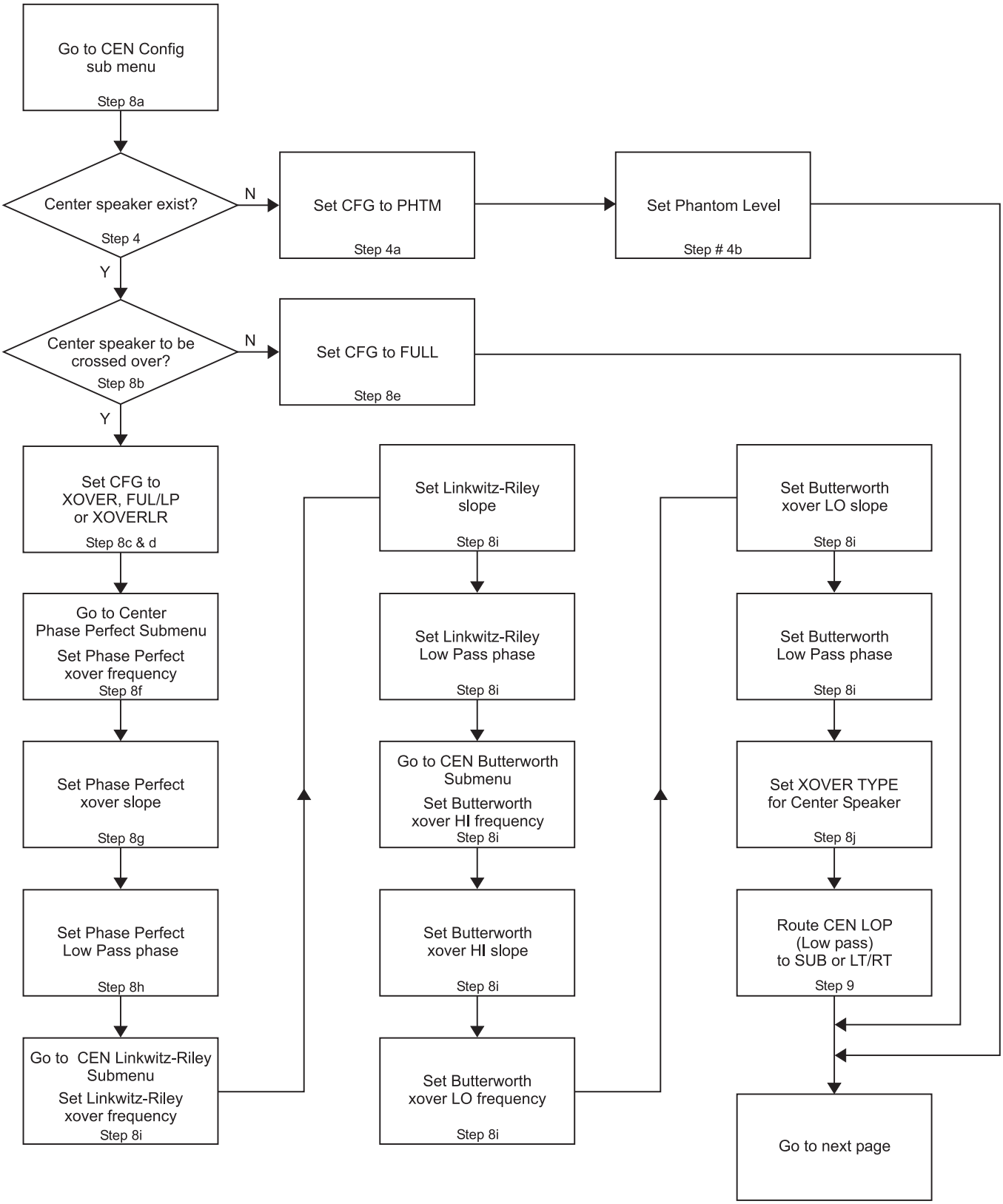
Flowchart A – Setup Subwoofer(s)



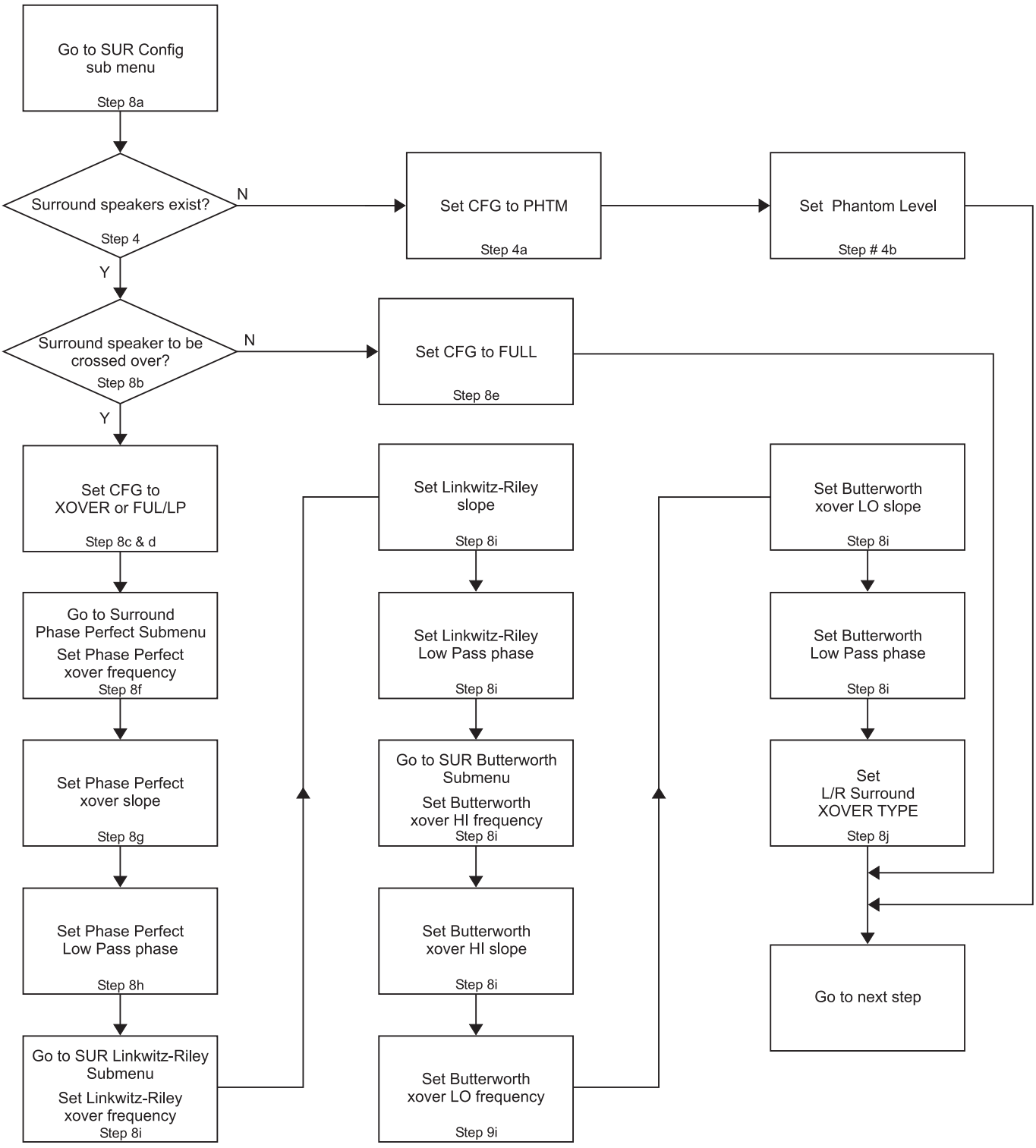
Flowchart B – Front Left/Right Configuration



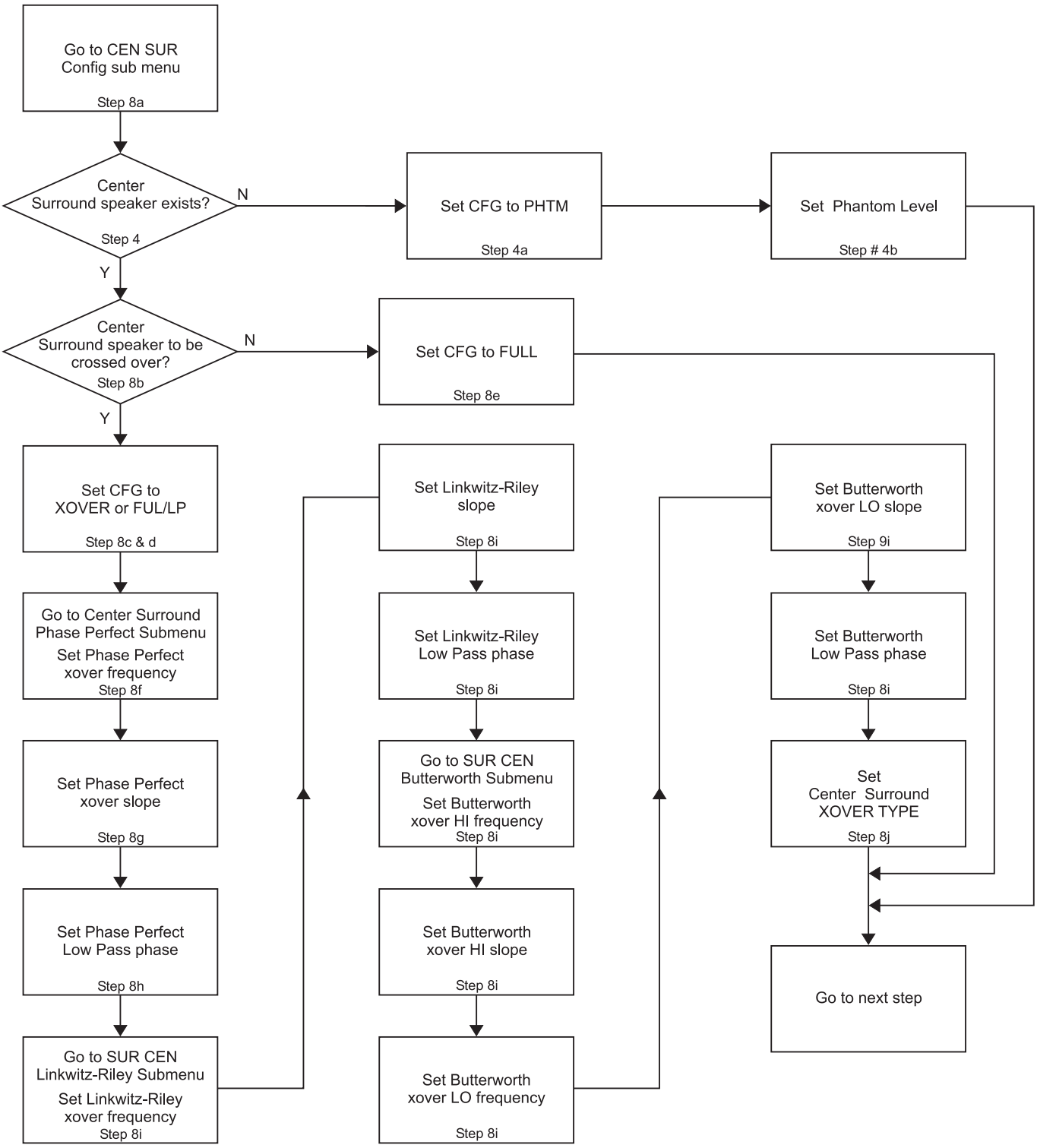
Flowchart C – Front Center Configuration



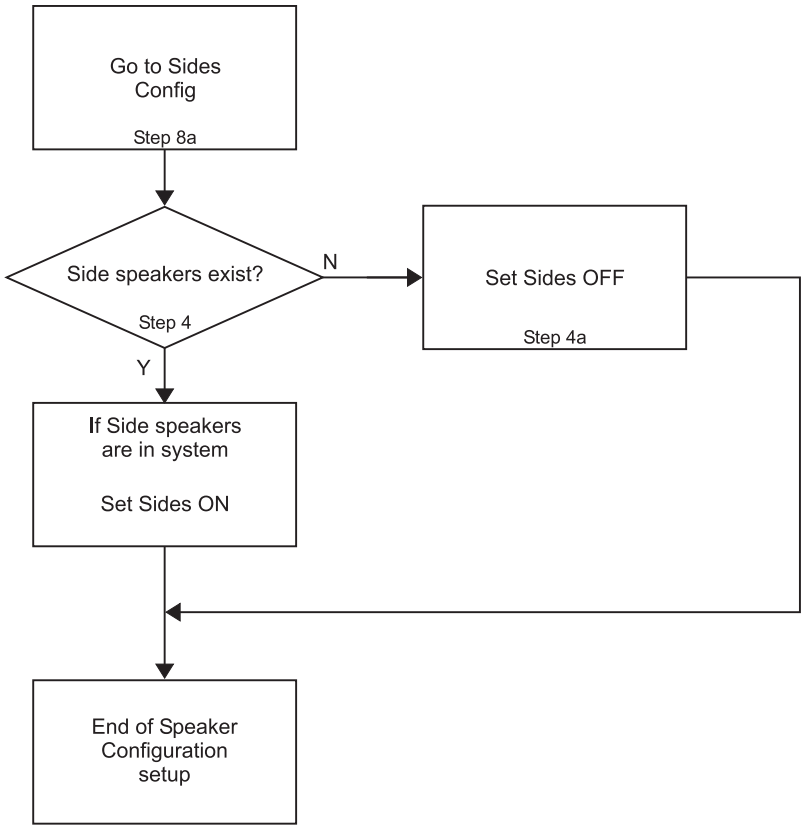
Flowchart D – Left/Right Surround Configuration.



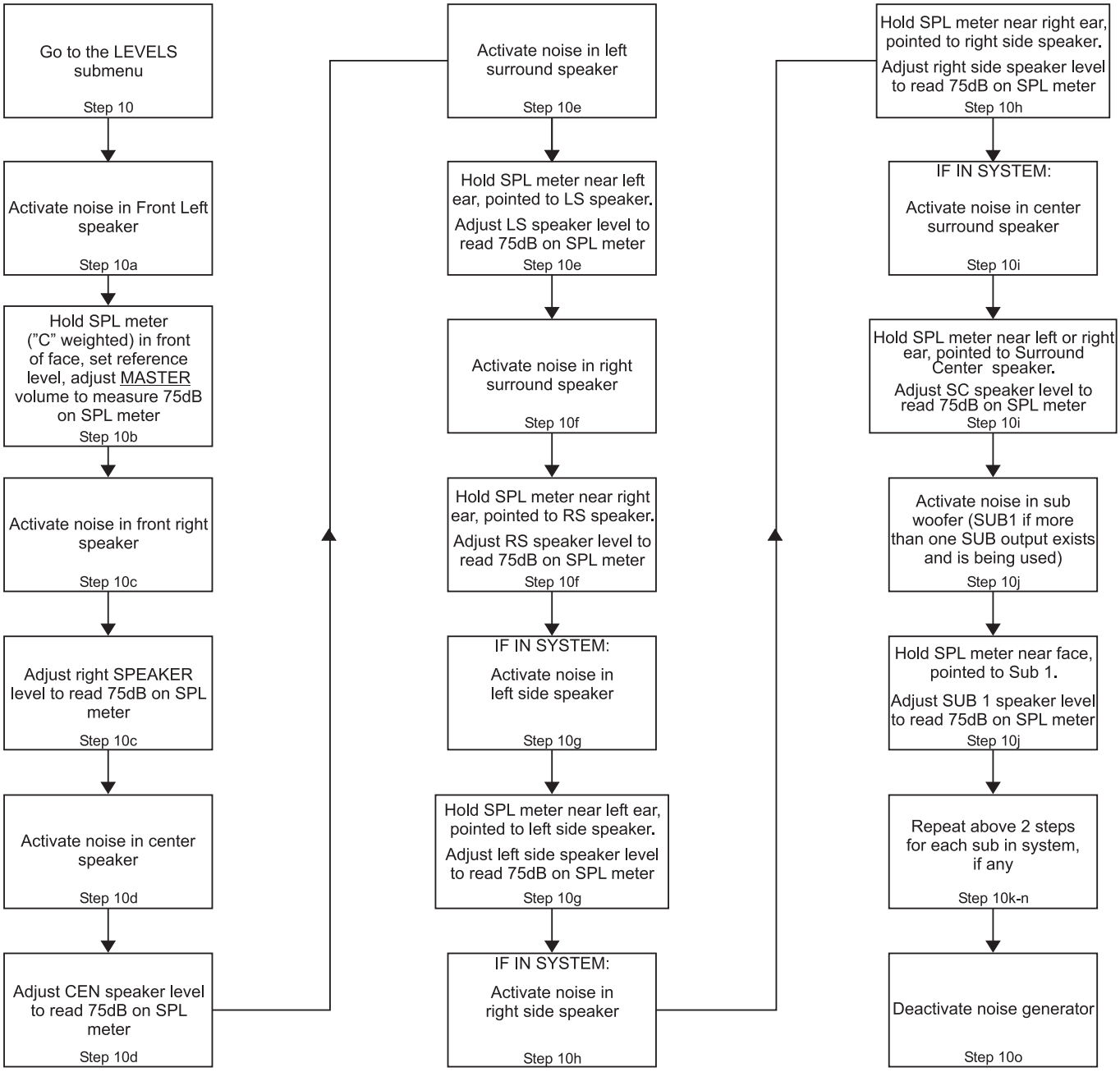
Flowchart E – Surround Center Configuration



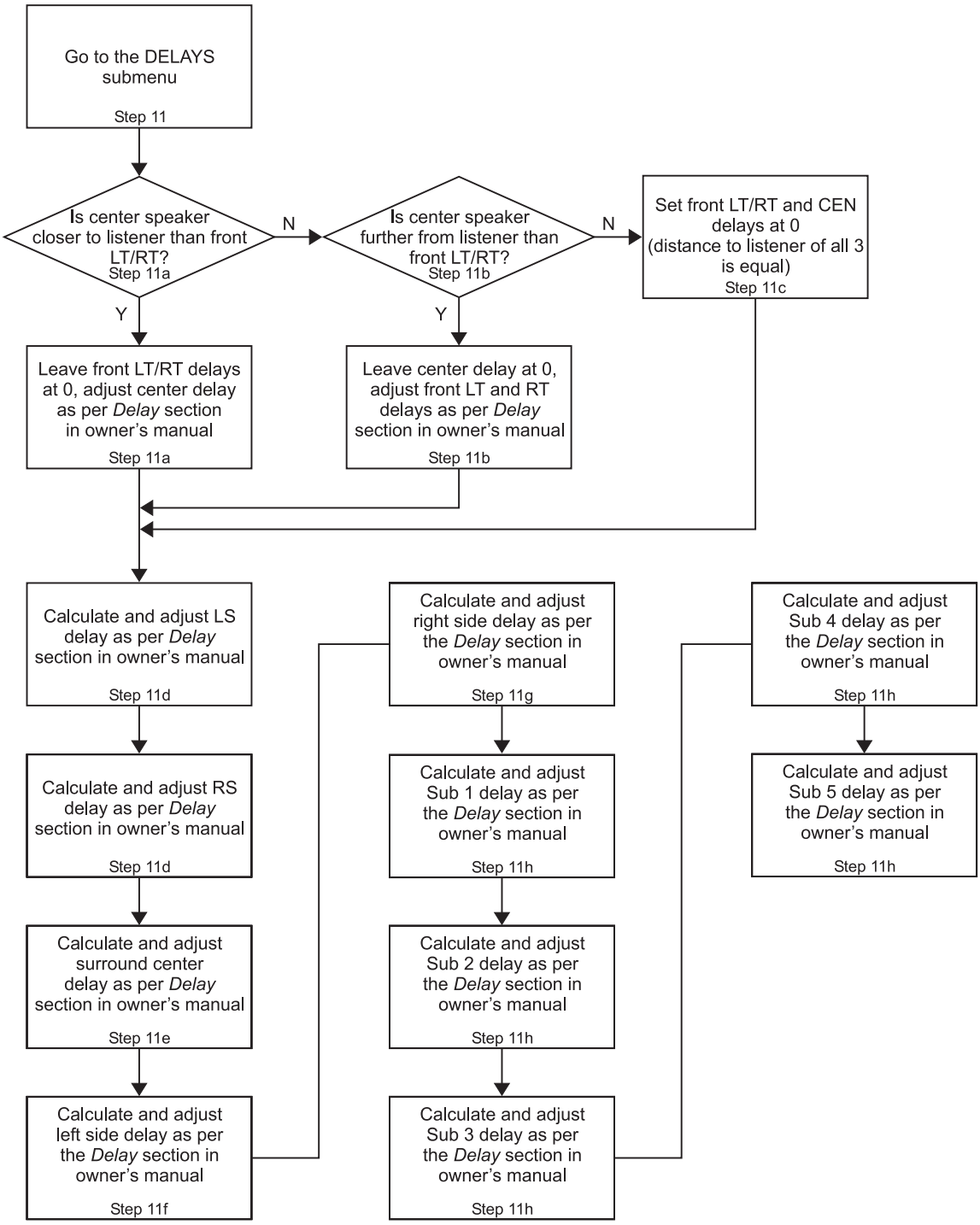
Flowchart F – Sides Configuration



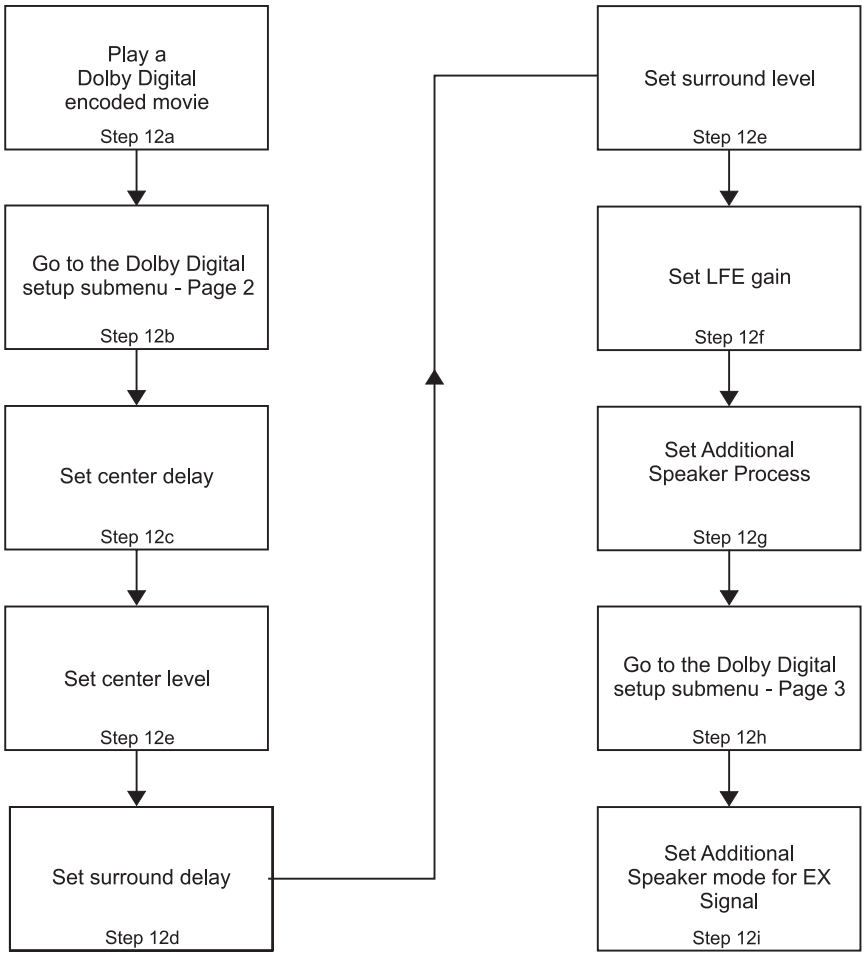
Flowchart G – Setup Speaker Levels


Go to the LEVELS submenu
Step 10
Activate noise in Front Left speaker
Step 10a
Hold SPL meter ("C" weighted) in front of face, set reference level, adjust MASTER volume to measure 75dB on SPL meter
Step 10b
Activate noise in front right speaker
Step 10c
Adjust right SPEAKER level to read 75dB on SPL meter
Step 10c
Activate noise in center speaker
Step 10d
Adjust CEN speaker level to read 75dB on SPL meter
Step 10d
Activate noise in left surround speaker
Step 10e
Hold SPL meter near left ear, pointed to LS speaker.
Adjust LS speaker level to read 75dB on SPL meter
Step 10e
Activate noise in right surround speaker
Step 10f
Hold SPL meter near right ear, pointed to RS speaker.
Adjust RS speaker level to read 75dB on SPL meter
Step 10f
IF IN SYSTEM:
Activate noise in left side speaker
Step 10g
Hold SPL meter near left ear, pointed to left side speaker.
Adjust left side speaker level to read 75dB on SPL meter
Step 10g
IF IN SYSTEM:
Activate noise in right side speaker
Step 10h
Hold SPL meter near right ear, pointed to right side speaker.
Adjust right side speaker level to read 75dB on SPL meter
Step 10h
IF IN SYSTEM:
Activate noise in center surround speaker
Step 10i
Hold SPL meter near left or right ear, pointed to Surround Center speaker.
Adjust SC speaker level to read 75dB on SPL meter
Step 10i
Activate noise in sub woofer (SUB1 if more than one SUB output exists and is being used)
Step 10j
Hold SPL meter near face, pointed to Sub 1.
Adjust SUB 1 speaker level to read 75dB on SPL meter
Step 10j
Repeat above 2 steps for each sub in system, if any
Step 10k-n
Deactivate noise generator
Step 10o

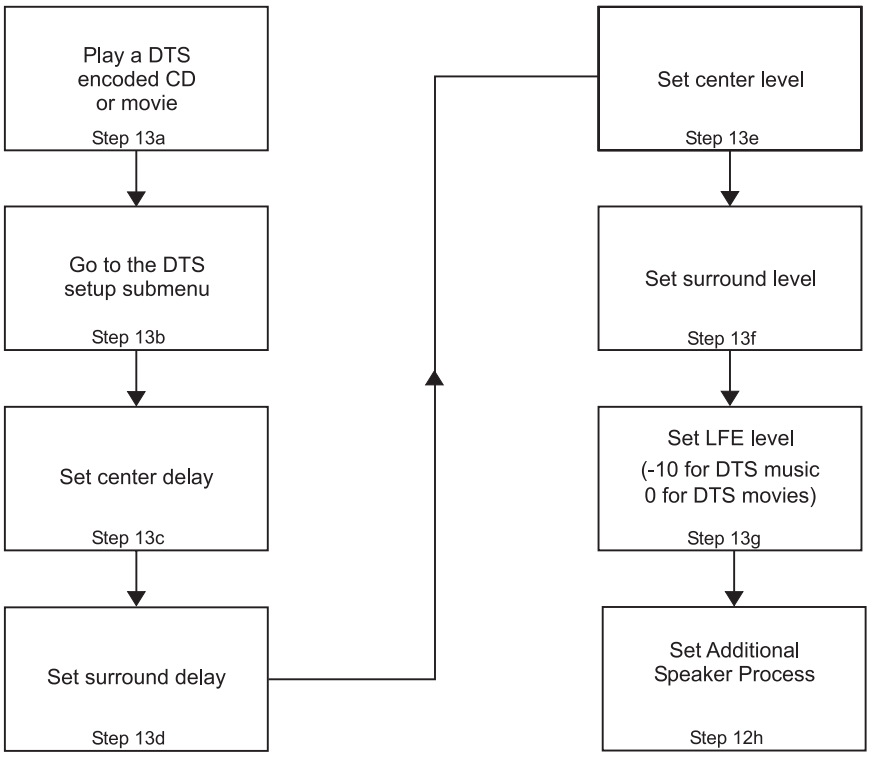
Flowchart H – Setup Speaker Delays


Go to the DELAYS submenu
Step 11
Is center speaker closer to listener than front LT/RT?
Step 11a
N
Is center speaker further from listener than front LT/RT?
Step 11b
N
Set front LT/RT and CEN delays at 0 (distance to listener of all 3 is equal)
Step 11c
Y
Leave front LT/RT delays at 0, adjust center delay as per *Delay* section in owner's manual
Step 11a
Y
Leave center delay at 0, adjust front LT and RT delays as per *Delay* section in owner's manual
Step 11b
Calculate and adjust LS delay as per *Delay* section in owner's manual
Step 11d
Calculate and adjust RS delay as per *Delay* section in owner's manual
Step 11d
Calculate and adjust surround center delay as per *Delay* section in owner's manual
Step 11e
Calculate and adjust left side delay as per the *Delay* section in owner's manual
Step 11f
Calculate and adjust right side delay as per the *Delay* section in owner's manual
Step 11g
Calculate and adjust Sub 1 delay as per the *Delay* section in owner's manual
Step 11h
Calculate and adjust Sub 2 delay as per the *Delay* section in owner's manual
Step 11h
Calculate and adjust Sub 3 delay as per the *Delay* section in owner's manual
Step 11h
Calculate and adjust Sub 4 delay as per the *Delay* section in owner's manual
Step 11h
Calculate and adjust Sub 5 delay as per the *Delay* section in owner's manual
Step 11h

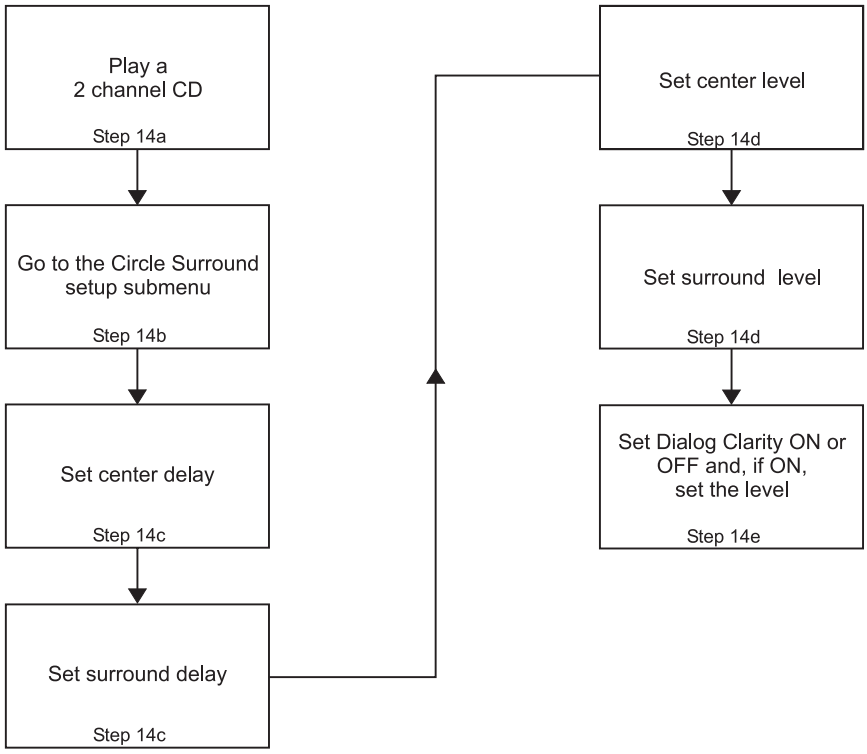
Flowchart I – Setup Dolby Digital



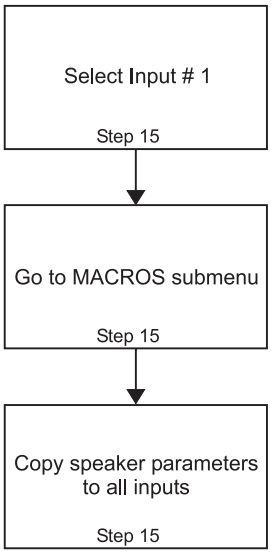
Flowchart J – Setup DTS



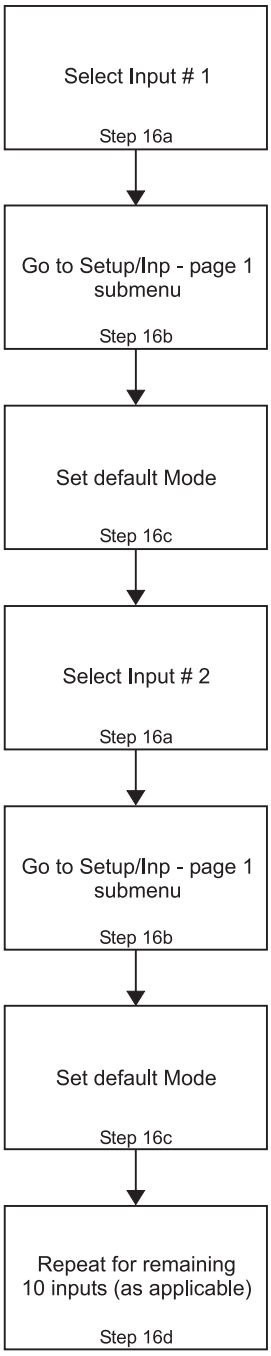
Flowchart K – Setup Circle Surround



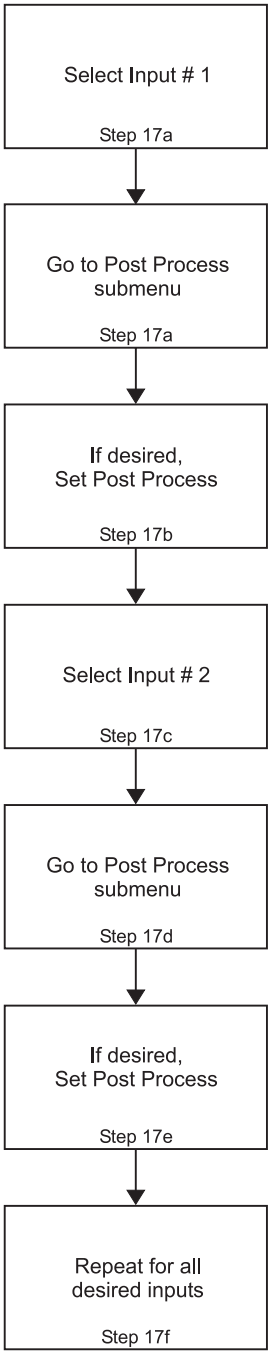
Flowchart L – Copy Input/Speaker Parameters



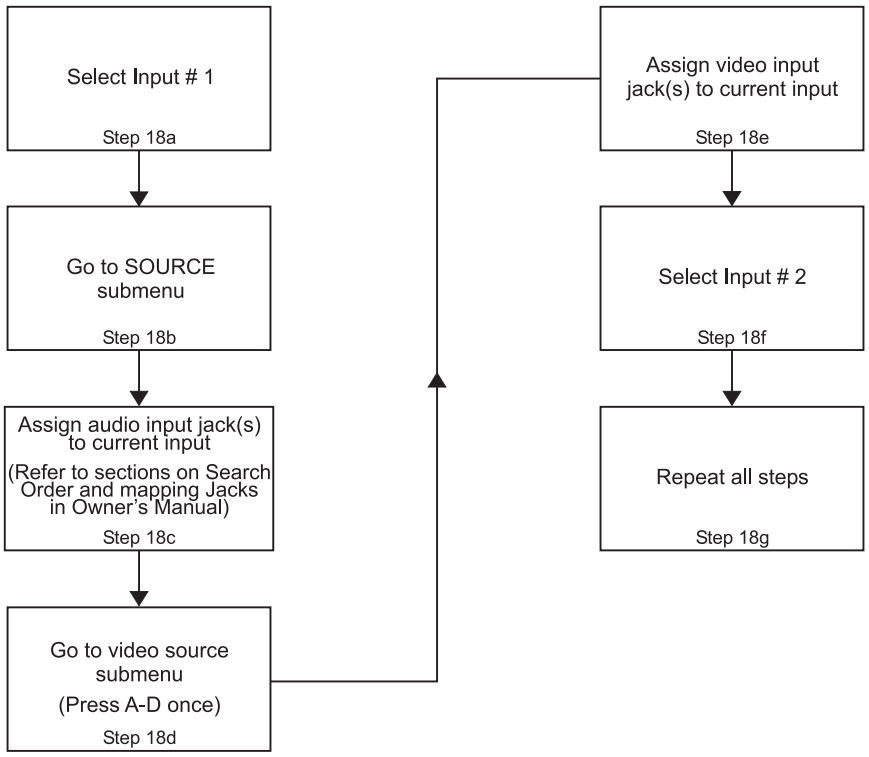
Flowchart M – Setup Default Mode



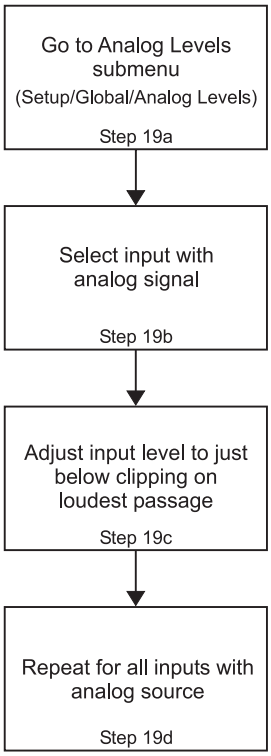
Flowchart N – Setup Post Process



Flowchart O – Map Input Jacks



Flowchart P – Setup Analog Input Levels


Go to Analog Levels submenu
(Setup/Global/Analog Levels)
Step 19a
Select input with analog signal
Step 19b
Adjust input level to just below clipping on loudest passage
Step 19c
Repeat for all inputs with analog source
Step 19d

FRONT PANEL OPERATIONS

This section describes the functionality of each button on the Casablanca III's front panel display only. For remote functionality descriptions, please refer to the section entitled *REMOTE CONTROL OPERATIONS* later in this manual. Descriptions for front panel buttons/functionality not covered in this section can be found in the preceding *FRONT PANEL LAYOUT* section.

Input Select Menus

When the Casablanca III is first powered up via the **MAIN POWER** switch on the back panel, it will check all software and hardware. It is in the default standby mode as soon as the front panel **MAIN POWER** LED is lit. After pressing the **MAIN** button on the front panel, the front panel display will show the start-up routine and then the current **INPUT SELECT** page, shown in figure 15 below. As this menu appears, the **MAIN** LED turns off. This display will be on during normal operation and will change only when one of the function buttons (or the **STATUS** button) is pressed.

When the Casablanca III is put into standby, the front panel display will read **CHECKING DISPLAY** and then all pixels will be illuminated for approximately 10 seconds. This check prolongs the life of the display.

Changing Inputs and Input Select Pages

The **INPUT NAMES** shown in this figure are for example only and will most likely differ from the user's set up. There are two **INPUT SELECT** pages, giving the user a total of 12 inputs. Buttons **1** through **6** are used to select a desired input, or audio/video source. The LED above the selected button will illuminate when pressed. When the Casablanca III exits standby mode, the last active **INPUT SELECT** will be selected. Pressing the **LEVEL LEFT** or **RIGHT** buttons switches between the two **INPUT SELECT** pages.

* * *

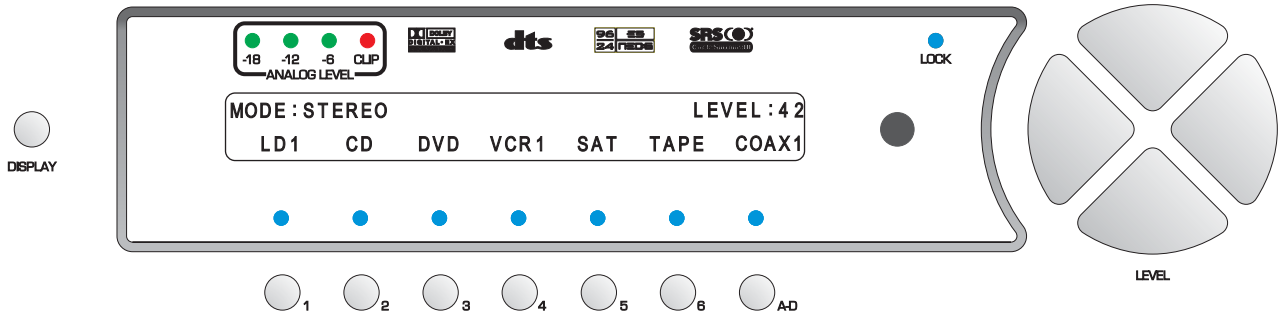


Figure 17 - Front Panel Display of the current INPUT SELECT page

Pressing the **LEVEL UP/DOWN** buttons will adjust the master volume for all speakers. A temporary bar graph appears on the VFD and OSD as the master volume is being adjusted. This value ranges from **0** to **73**, relative maximum.

The current **MODE** is displayed in the upper left corner. The "Additional Speakers" setting as well as the post process selection is also displayed. The displayed mode can vary slightly, depending on what the input signal is and which speakers are active. For example, if a center surround speaker is present and activated when a Dolby Digital EX signal is playing, the mode may be displayed as "Dolby Digital EX" however if the Center Surround speaker in this example were not present or turned on, then the mode would be reflected as "Dolby Digital". This is because EX is not applicable when the speakers are reflective of a 5.1 (or less) system.

Selecting Mapped Input Jacks for the Currently Selected Input

Pressing the **A-D** button will toggle between the input jacks that are mapped to this **INPUT SELECT** button. Please refer to page 44 (*Search Order*) for important, detailed information regarding using the **A-D** button.

* * *

The **MUTE** button will toggle the audio between the master volume level and **MUTE** level* in all speakers

each time it is pressed. When the mute feature is enabled, the word **LEVEL** in the VFD will be replaced with the word **MUTED**, which will remain displayed until the mute is disabled. The **MUTE** feature is active in all menus, at all times.

*__Note__: The factory default value for **MUTE** is **0**, which is to say that when the **MUTE** button is pressed, the output level of all channels will be completely muted (master volume = **0**). The Casablanca III offers a feature in the **SETUP**/**GLOBAL/MUTE-VOLUME** submenu whereby when the **MUTE** button is pressed, the Casablanca III will mute to a user defined master volume level. Please refer to page 78 for additional information regarding this feature.

The Casablanca III can be un-muted in two ways: pressing either the **MUTE** button or the **LEVEL UP/DOWN** buttons. Please refer to page 78 for additional information regarding this feature.

The **DISPLAY** button will toggle the front panel VFD brightness between off, ¼, ½, ¾ and full brightness. This feature will have no effect on the video display. When the VFD is turned off, the red logo LEDs also turn off.

This change will be temporary and will hold only until another action is taken. To permanently set the VFD brightness, by INPUT SELECT button, go to **SET-UP/INP/VFD**.

Search Order

The Casablanca III's inputs can support virtually every analog and digital and video format used in today's technology. Up to 6 audio input jacks can be mapped to each **INPUT SELECT** button. These 6 input jacks can be all digital, all analog or any combination of both. In the **SETUP/INP *Page 2*/SOURCE/AUD** page, the order in which they are mapped to a given **INPUT SELECT** button determines the order each is displayed when the **A-D** button is pressed when in the **INPUT SELECT** menu. This is called *Input Search Order*. Figure 18 below shows **INPUT SELECT 1** having the CD and DVD input jacks mapped to it, with the CD jack having the highest priority (being in the first position). In this example, there are no other physical input jacks required to be mapped to **INPUT SELECT 1**, therefore the jack name positions of 3-6 are blank. Pressing the **A-D** button while in the **INPUT SELECT** page, will toggle between the CD input jack and the DVD input jack. Pressing the **A-D** button in the **SETUP/INP *Page 2*/SOURCE/AUD** submenu will access the video search order page. In this page, pressing buttons **1**-**6** will allow the user to assign a video input jack (1-6) to correspond to the respective audio search order. In the above example, one would not assign a video jack to search order # 1 since the audio search order # 1 is assigned to CD, which is not a video source. If one wanted an unrelated video source to be viewable when listening to CDs, simply map a video source to video search order # 1. Also in the above example, one would normally assign the DVD video input to video search order # 2.

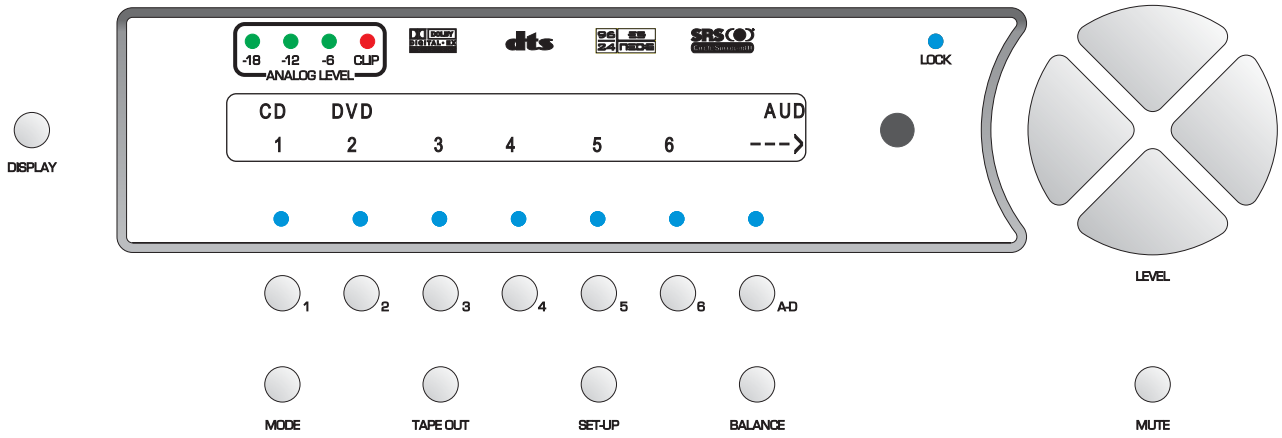


Figure 18 - Front Panel Display of the SETUP/INP *page 2*/SOURCE/AUD page

Caution: Please take special care to insert only a digital signal into a digital input jack and an analog signal only into an analog input jack. Damage, not covered under warranty, can occur if an analog signal is applied to a digital input. Additionally, please ensure that a video plug is not inadvertently inserted into a digital audio jack and visa versa, otherwise, the Casablanca III will cease to respond.

MODE Function

Pressing the **MODE** button (shaded in figures 19, 20 and 21) once displays the first page of the **MODE** menu. This first page consists of 6 different signal 'processing' modes, one of which can be selected and temporarily applied to the currently selected input signal, when applicable. A *right* arrow is displayed in the lower right corner of the VFD indicating that there is an additional **MODE** page. Pressing the **A-D** button once will reveal the second page and once more for the third page, all consisting of additional modes. Figure 19 shows the first **MODE** page, figure 20 shows the second and figure 21 shows the third.

Note: This menu allows the user to audition different modes when possible. It does not store the changed mode. When a different **INPUT SELECT** button is pressed, or the Casablanca III is powered down, the **MODE** will revert to its default for that **INPUT SELECT** button. Each **INPUT SELECT** button can have its own default **MODE**, the default mode for each **INPUT SELECT** is set in the **SETUP**/ **INPUT** menu. Please refer to page 62 (Default Mode) for information on setting the **MODE** for an **INPUT SELECT** button.

* * *

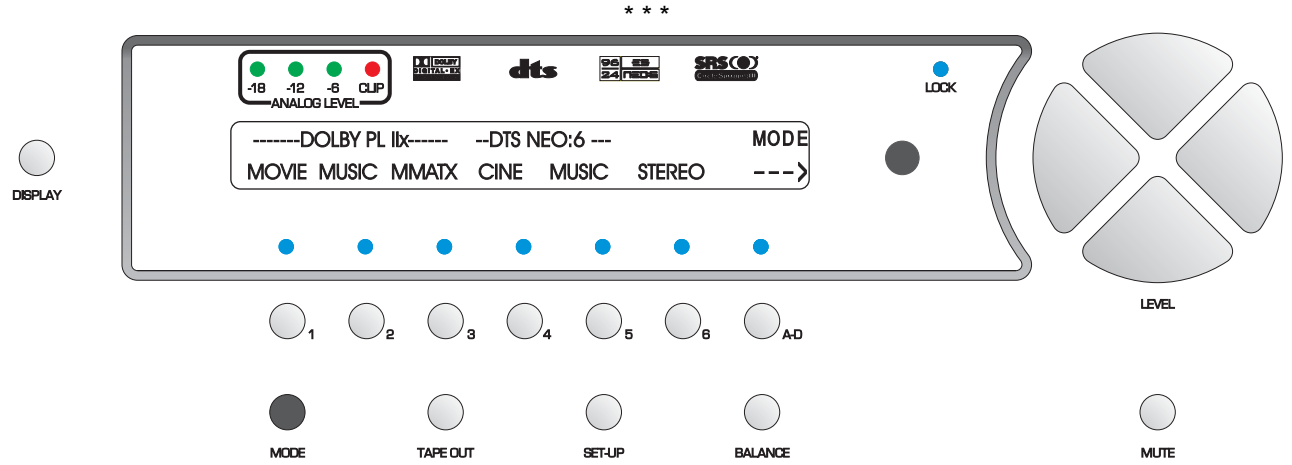


Figure 19 - Front Panel Display of the MODE *Page 1* Menu

Press button **1** - **6** to select the desired mode. The corresponding LED above buttons **1** through **6** will illuminate.

Each of the 6 modes shown in figure 19 are described below:

Pro Logic IIx outputs 5.1, 6.1 or 7.1 channels from 2-channel or 5.1 channel sources, incorporating the best elements of Dolby Digital, Dolby Digital EX and Dolby Pro Logic II.

Dolby Pro Logic IIx Movie (**MOVIE**). Intended to be used with 2-channel TV sources and will create 5.1, 6.1 or 7.1 output channels. Movie mode is the reference decoder mode for any such surround-encoded program.

Dolby Pro Logic IIx Music (**MUSIC**). The Music mode is for use with stereo recordings and provides a wide and deep sound space. The Music mode balances the multi-channel surround sound field to content that was not specifically encoded for surround playback. The Music Mode includes controls that allow additional sound tailoring. These include Center Width and Panorama Mode, which are both discussed in the Setup Dolby Digital section of this manual.

Dolby Pro Logic IIx Matrix (**MMATX**). This mode is intended to enhance incoming an mono signal or make a poor incoming FM signal more listenable by forcing it into mono.

DTS Neo:6 was designed to provide a richer and more natural surround sound experience from 2-channel sources. It outputs 5.1 or 6.1 channels. An incoming Neo:6 signal can be encoded as either Matrix or Discrete.

DTS Neo:6 Cinema (**CINE**). This is intended to be used with a 5.1 or 6.1 channel source and will output 5.1 or 6.1 channels.

DTS Neo:6 Music (**MUSIC**). This mode will take an incoming 2-channel source and output 5.1 or 6.1 channels. It is intended to be used with any 2-channel source. It preserves the integrity of a stereo mix while augmenting it with a center to anchor the image, and derive enough sound content to yield a spacious, three dimensional listening experience. Music Mode includes a user adjustable variable called **CGAIN**, or Center Gain. This is discussed in the **SETUP\DTS** section of this manual.

STEREO: Left and Right input signals are sent to the Left and Right front speakers. If crossed over in the **SETUP\SPKR\CONFIG** menu, **SUB** channel(s) will be produced.

Press the **A-D** button to navigate to the second page of the **MODE** menu.

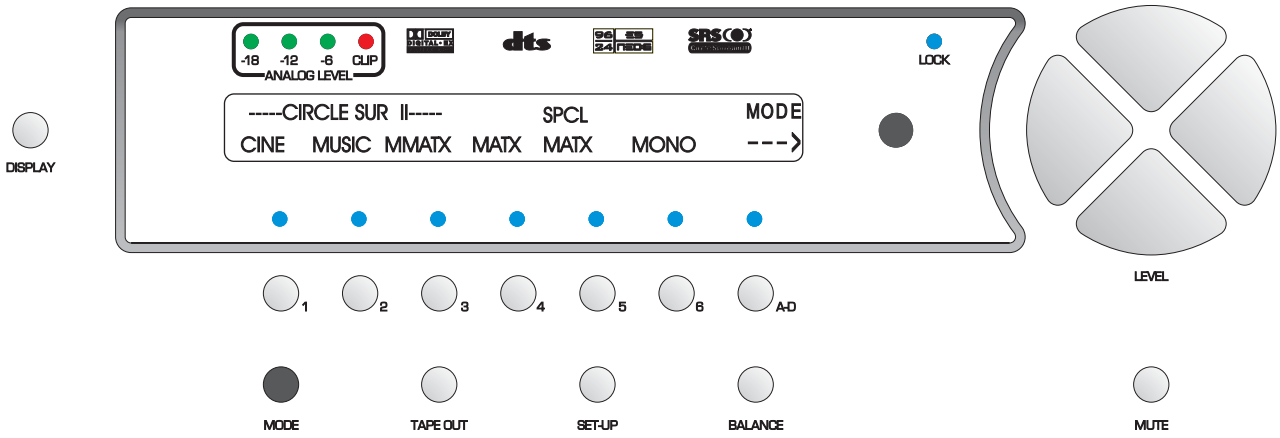


Figure 20 - Front Panel Display of the MODE *Page 2* Menu

Each of the 6 modes shown in figure 20 are described below:

Circle Surround II can process an incoming mono, stereo or surround signal and output on all active channels of the Casablanca III.

Circle Surround II Cinema (**CINE**): This mode is often used with an incoming signal that is Circle Surround encoded.

Circle Surround II Music (**MUSIC**): This mode is intended for use with 2-channel music sources that are not encoded. It will decode and route information to all active channels in the Casablanca III, maintaining stereo surround left/right imaging.

Circle Surround II Mono (**MMATX**): This mode is intended for an incoming mono signal. A mono-to-stereo algorithm is applied before performing the decoding. After decoding, the signal will be matrixed into all active channels in the Casablanca III.

When using Circle Surround modes, the Dialog Clarity can be adjusted. Please refer to the SETUP\Circle Surround section of this manual.

Matrix (**MATX**): The signal routed to the center speaker is equal to the left plus right input signals and the mono signal routed to the surround speakers is equal to left minus right signals. Crossing over any speaker(s) produces sub channel(s).

Special Matrix (**SPCL MATX**): A mode similar to Dolby Pro Logic with more ambience retrieval in the surround speakers. Crossing over any speaker(s) produces a sub channel.

MONO: This mode routes the input signal to the center channel only, however, if the center channel is crossed over, a sub channel will be produced. If the center channel is set to **OFF** or **PHANTM** in the **SETUP/ INPUT/CONFIG** submenu, the input signal will be routed to the front left and right speakers.

From the second **MODE** page, press the **A-D** button to navigate to the third page of the **MODE** menu.

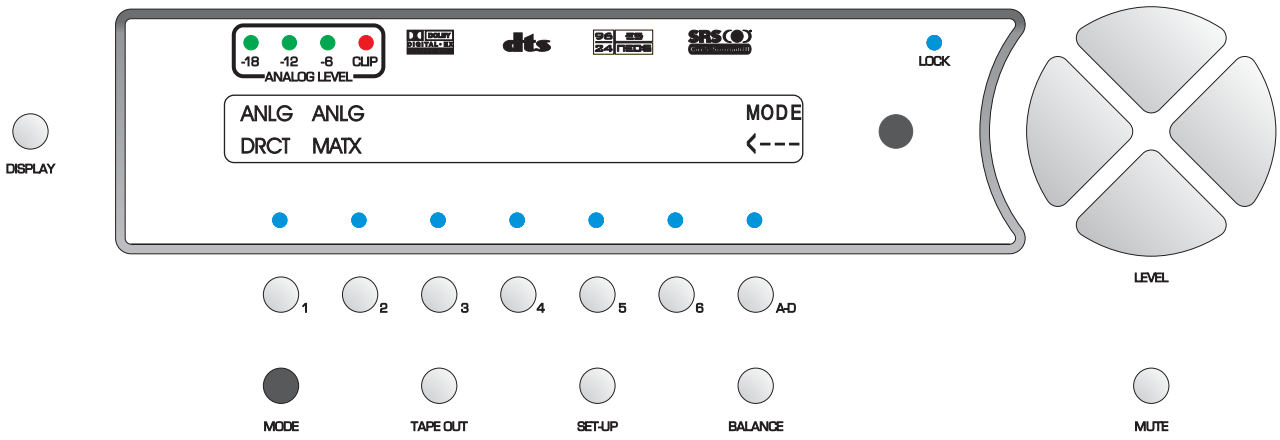


Figure 21 - Front Panel Display of the MODE *Page 3* Menu

Analog Direct (**ANLG DRCT**): This mode takes the selected analog input and routes it directly to the main Left/Right output volume controls. Since there is no surround processing in Analog Direct, the sub woofer, EQ, phantom center channel, and crossover effects are not available. Note: If these effects are desired, use the **STEREO** mode. The Analog Direct mode will route only an analog signal to the outputs.

Analog Matrix (**ANLG MATX**): The signal routing in this mode is the same as Analog Direct (**ANLG DRCT**), (left & right analog input signals routed directly to the main outputs via the volume controls), and at the same time the input left and right signals are routed through an analog to digital converter and matrixed in order to derive the other channels, which include left & right surround, sides, center and center surround. These other channels can have **EQ** and be crossed over (creating a **SUB** channel), but the front left and right channels will carry only the direct analog signal. The Analog Matrix mode processes a 2-channel analog input signal only.

* * *

The current Mode is always shown on the top left of the main Input Select menu. If the incoming signal contains an identifying flag, a bit of information contained in the incoming digital data stream, the Casablanca will automatically switch to that mode. An example of this would be DTS Discrete, Dolby EX, DTS Matrix, DTS ES, DTS 96/24.

These modes are not selectable by the user since they are intended for use only when that signal type is detected.

* * *

If the Casablanca III detects a flagged Dolby Digital signal on the selected digital input jack, and the **MODE** is *not* set to **DOLBY DIGITAL**, the Casablanca III will display the following message on both the VFD and OSD monitor:

****RECEIVING DOLBY DIGITAL SIGNAL****
CHANGING MODE TO DOLBY DIGITAL

and display one of the **DOLBY DIGITAL** modes as the current mode. Approximately 2 seconds after the Casablanca III ceases to receive this signal (no lock), the **MODE** will revert back to the default mode for that Input Select button. If the detected signal's format is Dolby Digital 2.0, the same auto detecting message will appear for a few seconds and the display will show **DOLBY DIGITAL+ PRO LOGIC** as the mode. Please refer to page 79 to turn on or off the Mode Change message.

If the Casablanca III detects a flagged DTS signal on the selected digital input jack, and the **MODE** is *not* set to **DTS**, the Casablanca III will display the following message on both the VFD and OSD:

****RECEIVING DTS SIGNAL****
CHANGING MODE TO DTS

and display one of the **DTS** modes as the current mode. Approximately 2 seconds after the Casablanca III ceases to receive this signal (no lock), the **MODE** will revert back to the default mode. Please refer to page 70 for additional DTS setup options, selectable in the second page of the **SETUP**/**INPUT** submenu.

Note: The "auto-detecting" messages for Dolby Digital and DTS will not show, by default. There is a parameter in the **SETUP**/**GLOBAL** ***page 2*** submenu (page 79) that turns this feature on and off.

* * *

After selecting a temporary mode for the current input channel, pressing the **MODE** button once more returns the Casablanca III to the **INPUT SELECT** menu. While in the **MODE** menu, the **MASTER VOLUME** can be controlled using the **LEVEL UP**/**DOWN** buttons.

Note: If the default **MODE** is **DOLBY DIGITAL** or **DTS** and a non-flagged 96K signal is received, the Casablanca III will momentarily display a message (if the **MSG** parameter is set to **ON**) indicating that it is receiving a 96K signal and [temporarily] changing the current mode to **STEREO**. The user can change this mode, after it has been changed to **STEREO**, by using the front panel **MODE** button and selecting a different and applicable **MODE**. The user cannot change which **MODE** the Casablanca III initially changes to when receiving a 96K signal if the default **MODE** for the currently selected input is either **DOLBY DIGITAL** or **DTS**.

TAPE OUT Function

This feature simultaneously controls the routing of signals to the analog audio, digital audio and the video tape out jacks.

Pressing the **TAPE OUT** button once changes the VFD display to the **TAPE OUT** menu shown in figure 22.

Note: The jack names shown in this figure are for example only and will most likely differ from the user's set up.

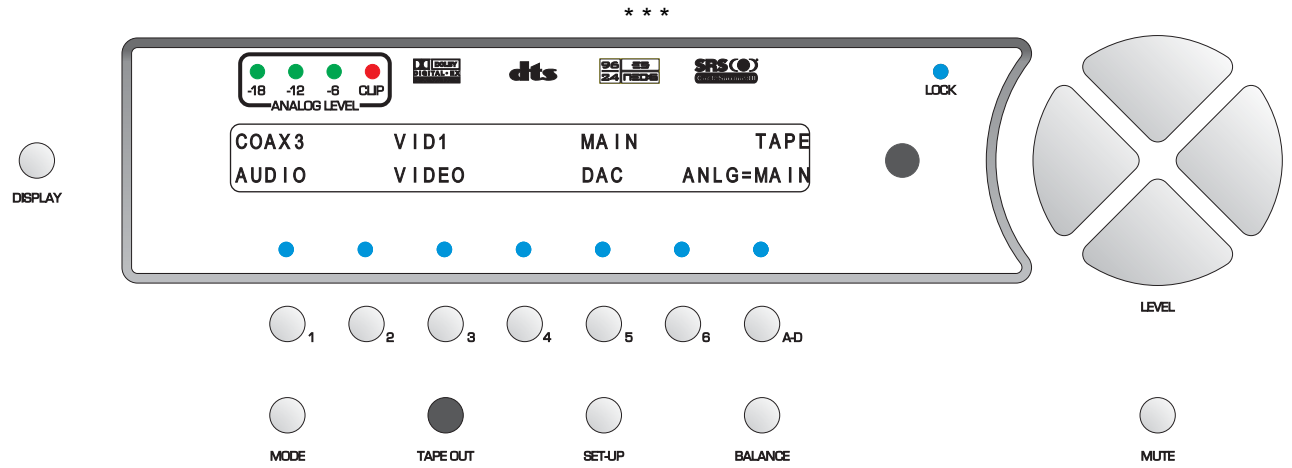


Figure 22 - Front Panel Display of the TAPE OUT Menu

In this menu, pressing button **# 1** allows the user to route any audio input jack - analog or digital - to the analog **TAPE OUT** jacks. This menu is completely dynamic. When the audio source is from an analog jack, the digital tape out jacks are disabled. This is indicated in both the OSD and VFD. Digital input sources will be routed to both the Analog Tape Out jacks and the Digital Tape Out jacks. If RF is selected for tape out, it is routed to the analog tape out jacks only. Analog sources will be routed only to the Analog Tape Out jacks, disabling the Digital Tape outs. This is confirmed in the lower right corner of the VFD by the indication "DIGI OFF" when an analog source is selected.

Button **# 3** allows the user to select a video source to route to the video **TAPE OUT** jacks. If the optional video board is not installed, the user's ability to route a video source to the video tape out jacks is not shown in the display.

The control circuitry to the video tape out jacks is common to composite, s-video and multi format video jacks. Example: when the user routes the composite video signal from a composite input **# 1** jack to the composite video tape out jack, the s-video **# 1** input simultaneously gets routed to the s-video tape out jack. If composite video **# 2** input jack is routed to the composite video tape out jack, then s-video input **# 2** jack gets routed to the s-video tape out jack, and so on.

Note: A composite video source will only be routed to the composite video **TAPE OUT** jack and an S-video source can only be routed to the S-video **TAPE OUT** jack.

When the **MAIN** DACs are selected (default), this is indicated in both the VFD and OSD. If the optional tape out DAC is not installed, the option to select it (via button **# 5**) is not shown.

Button **# 5** allows the user to select whether the signal at the analog **TAPE OUT** jacks is derived from the main output DACs or the optional tape out DAC, (if installed), by displaying **MAIN** or **TAPE** above button **# 5**. The **TAPE** setting is only relevant if a digital source is being routed to the analog tape out. All analog inputs are routed directly to the **TAPE OUT** jacks, without A/D to D/A conversion.

The **ANALOG, DIGITAL** and **VIDEO** sources can be set to **INPUT**. With this setting, the tape out sources will 'follow' whichever input the user has currently selected. When the user changes inputs, the tape out source simultaneously changes to the currently active input jacks.

When the routing is completed, press **TAPE OUT** again to clear the video display. While in these menus, the **MASTER VOLUME** can be controlled via the **LEVEL LEFT**/**RIGHT** buttons.

CAUTION: It is not advisable to route a decoded multi-channel source (DTS/Dolby Digital) to the optional tape out DAC as this section does not contain Dolby Digital or DTS decoding capabilities. Full scale and potentially damaging noise will be output!

Standard Tape Out Configuration

The following guidelines apply when the tape out circuitry is in its standard configuration, i.e. the optional tape out D/A converter has not been installed.

A source to be recorded (via the analog **TAPE OUT** jacks) can be selected independently of the source currently being viewed or listened to provided that the input for the source to be recorded is **ANALOG**.

It is possible to record a digital source in analog, only if the source is the same as the input being watched or listened to (or the source that is currently selected). If the desired source is multi-channel (DTS/Dolby Digital), it is recommended that both the surrounds and center speakers be set to phantom (**PHTM**). This mixes those channels' information into the front left/right channels to ensure that all channels of information are heard.

Optional Upgrade Tape Out Configuration

When the optional D/A converter has been installed onto the Digital Input board, one digital source can be recorded, i.e. sent to the analog **TAPE OUT** jacks, at the same time as a second digital source is being listened to on the main outputs.

SETUP Function

This function provides access to a series of submenus that will allow the configuration of the entire system. In this section, each feature of the **SETUP** menu is discussed in detail along with a diagram of each VFD display.

Note: A complete step-by-step speaker configuration setup guide is located on page 17.

Pressing the **SET-UP** button once changes the front panel display to the first page of the **SETUP** menu, shown in figure 23.

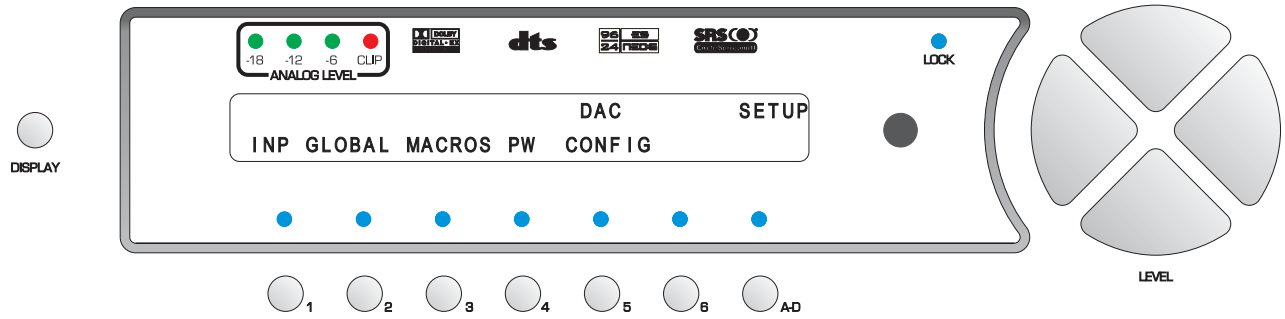


Figure 23 - Front Panel Display of the SETUP Menu

As indicated in figure 23, button **1** is assigned to features that are stored by input and leads to submenus on 3 pages. Button **# 2** accesses all submenus and parameters that are global (not programmable to each **INPUT SELECT**). Button **# 3** accesses the **MACROS** submenu and button **# 4** allows the user to password protect all **SETUP** features. Button **# 5** displays the configuration of the installed DAC cards.

Setup Button Password

It is possible to password protect the entire **SETUP** function, or have no password at all. If a password is set here, the user will be asked to enter the 5 digit password whenever the **SETUP** button is pressed. To set a password for the **SET-UP** button press button **# 4**. The user will be asked "**ARE YOU SURE YOU WANT TO ENTER A PASSWORD FOR THIS MENU?**" Choosing "**YES**" (the **A-D** button) will display the following page:

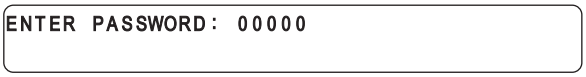


Figure 24 - Front Panel Display of the SETUP/Assign Password Display

Use buttons **1**-**6** to assign a password. If no password is to be used (factory default), press the **A-D** button five times, entering all zeros. All zeros, or a zero anywhere in the password negates the password.

CAUTION: It is imperative that all passwords be written down. If forgotten, ALL access to the **SETUP** menu will be denied. Please see the **WARNING** on page 16.

DAC Configuration

Pressing button **# 5** allows the user to view the channels assigned to each DAC card. This is an information page only and not an editable menu. As an example, the first page will say "**LEFT FRONT CEN**" if a three-channel Standard or Superior balanced DAC card is in DAC slot # 1. Press the **A-D** button to view the channels assigned to the second DAC card. Press the **A-D** once more for the third DAC card, if installed. Press **SET-UP** once to exit this menu.

The following section will discuss all menus and parameters under the **INPUT** button.

SETUP INPUT (Settings specific to each of the 12 Input Select Buttons)

Setup Input Page 1

All parameters accessed within the **SETUP/INP** menu are separately programmable for each of the 12 **INPUT SELECT** buttons.

From the **SETUP** menu press button **# 1** (**INP**). The first of three pages of the **SETUP/INPUT** submenus will appear, as shown in figure 25.

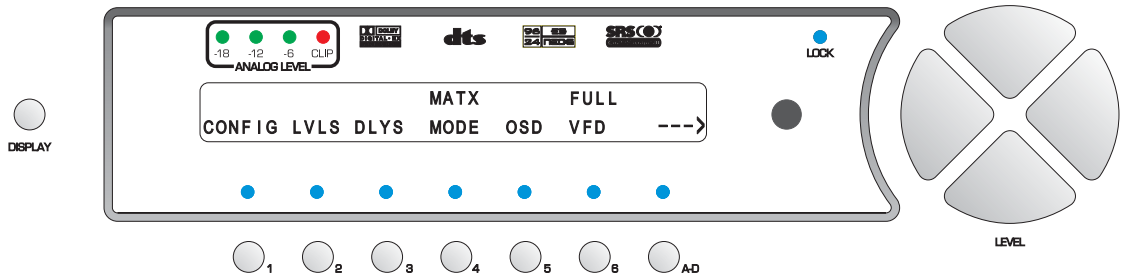


Figure 25 - Front Panel Display of the SETUP/INPUT page 1 Submenu

Pressing button **# 1** takes the user into a series of submenus that allow the configuration of all speakers. Button **# 2** allows the user to set the speaker levels and button **# 3** allows the user to set speaker delays.

Press button **# 4** and use the **LEVEL UP/DOWN** buttons to set the default **MODE** for the currently selected **INPUT SELECT** button.

Pressing button **# 5** provides a submenu that allows the user to customize the on screen display (OSD) as well as set up other **OSD** features, including the customization of the **STATUS** displays.

Button **# 6** provides a means of setting the VFD brightness for the currently selected **INPUT SELECT** button.

Pressing the **A-D** button takes the user to page 2 of **SETUP/INP**.

Setup Speaker Configuration

The Speaker Configuration section utilizes the menus shown in figure 26.

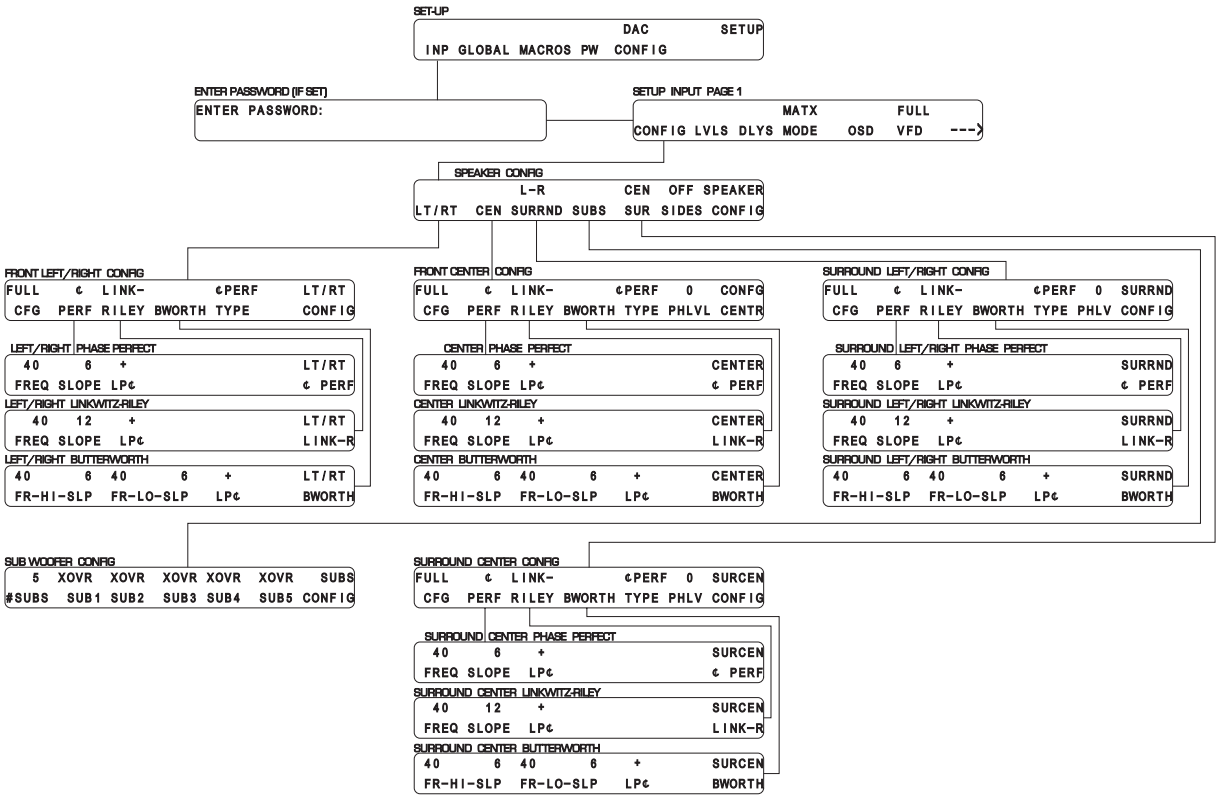

SET-UP
DAC SETUP
INP GLOBAL MACROS PW CONFIG
ENTER PASSWORD (IF SET)
ENTER PASSWORD:
SETUP INPUT PAGE 1
MATX FULL
CONFIG LVLS DLYS MODE OSD VFD --->
SPEAKER CONFIG
L-R CEN OFF SPEAKER
LT/RT CEN SURRND SUBS SUR SIDES CONFIG
FRONT LEFT/RIGHT CONFIG
FULL ¢ LINK- ¢PERF LT/RT
CFG PERF RILEY BWORTH TYPE CONFIG
LEFT/RIGHT PHASE PERFECT
40 6 + LT/RT
FREQ SLOPE LP¢ ¢ PERF
LEFT/RIGHT LINKWITZ-RILEY
40 12 + LT/RT
FREQ SLOPE LP¢ LINK-R
LEFT/RIGHT BUTTERWORTH
40 6 40 6 + LT/RT
FR-HI-SLP FR-LO-SLP LP¢ BWORTH
FRONT CENTER CONFIG
FULL ¢ LINK- ¢PERF 0 CONFG
CFG PERF RILEY BWORTH TYPE PHLVL CENTR
CENTER PHASE PERFECT
40 6 + CENTER
FREQ SLOPE LP¢ ¢ PERF
CENTER LINKWITZ-RILEY
40 12 + CENTER
FREQ SLOPE LP¢ LINK-R
CENTER BUTTERWORTH
40 6 40 6 + CENTER
FR-HI-SLP FR-LO-SLP LP¢ BWORTH
SURROUND LEFT/RIGHT CONFIG
FULL ¢ LINK- ¢PERF 0 SURRND
CFG PERF RILEY BWORTH TYPE PHLV CONFIG
SURROUND LEFT/RIGHT PHASE PERFECT
40 6 + SURRND
FREQ SLOPE LP¢ ¢ PERF
SURROUND LEFT/RIGHT LINKWITZ-RILEY
40 12 + SURRND
FREQ SLOPE LP¢ LINK-R
SURROUND LEFT/RIGHT BUTTERWORTH
40 6 40 6 + SURRND
FR-HI-SLP FR-LO-SLP LP¢ BWORTH
SUB WOOFER CONFIG
5 XOVR XOVR XOVR XOVR XOVR SUBS
#SUBS SUB1 SUB2 SUB3 SUB4 SUB5 CONFIG
SURROUND CENTER CONFIG
FULL ¢ LINK- ¢PERF 0 SURCEN
CFG PERF RILEY BWORTH TYPE PHLV CONFIG
SURROUND CENTER PHASE PERFECT
40 6 + SURCEN
FREQ SLOPE LP¢ ¢ PERF
SURROUND CENTER LINKWITZ-RILEY
40 12 + SURCEN
FREQ SLOPE LP¢ LINK-R
SURROUND CENTER BUTTERWORTH
40 6 40 6 + SURCEN
FR-HI-SLP FR-LO-SLP LP¢ BWORTH

Figure 26 - Menu Map of SETUP/INP *Page 1*/CONFIG

The configuration submenus (**CONFIG)** allow the user to configure the Casablanca III to reflect the audio system

configuration or the listener's preference for the available speakers and their respective frequency responses.

All speaker configuration parameters are accessed by pressing button **# 1** (**CONFIG**). This leads to a series of submenus. The first submenu, **SPEAKER CONFIG** is shown below, in figure 27.

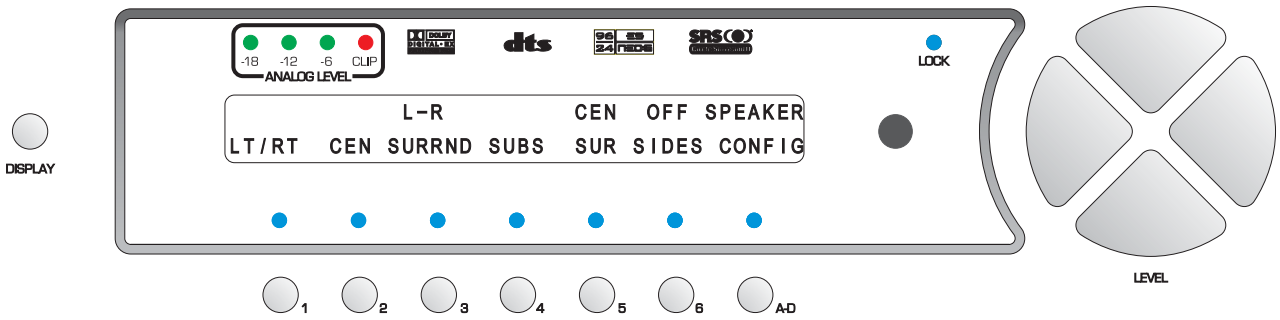


Figure 27 - Front Panel Display of the Speaker Configuration Submenu

As indicated in figure 27 above, the front left/right speaker configuration is accessed by pressing button **# 1**, the center via button **# 2**, the left/right surrounds with button **# 3, # 4** is for the sub woofer(s), **# 5** for the center surround and **# 6** allows the user to turn the side speakers, if any, **ON** or **OFF**. Before configuring any speakers in the system, it is important to configure the sub woofer. First, determine whether or not a sub or subs are required or desired. Press button **# 4** to go to the **SUB CONFIG** submenu, shown in figure 25, and set up the sub(s). If no sub(s) is present, or is not desired, set the number of subs (**#SUBS**) to **0** and disregard any crossover types at this time. Lastly, configure the other speakers in the system via buttons **1**-**3** and **5**-**6**.

Note: Information for the side channels is the same as the left/right surrounds. Therefore the configuration setting for the surrounds also applies to the sides. Level and delay settings can be applied separately for the sides via the Levels and Delays submenus, respectively.

SUB Configuration

Note: If the source does not contain a discrete LFE channel, no signal will be routed to the **SUB** output(s) unless one or more speakers are crossed over. If the source contains a discrete LFE channel and the **#SUBS** is turned off (set to **0**), the LFE signal will be routed equally to all speakers whose **CFG** is set to **FULL**.

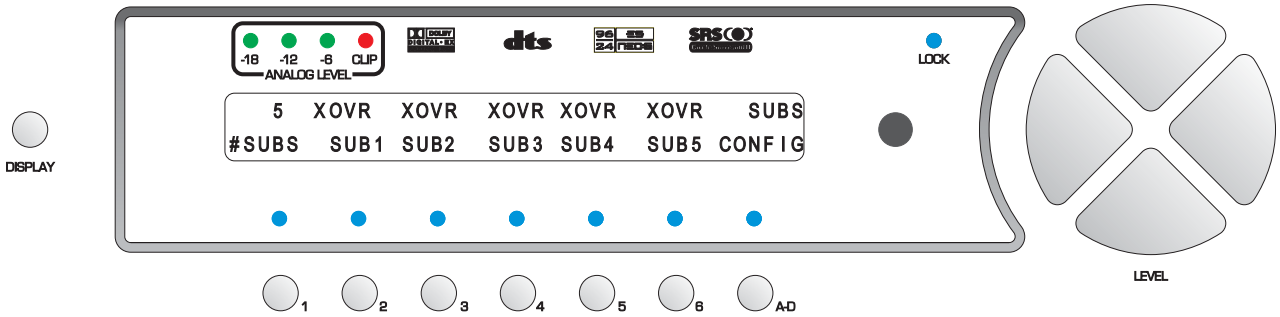


Figure 28 - Front Panel Display of the Subs Configuration Submenu

Unlike most configuration submenus in the Casablanca III, this one is not dynamic. In other words, if there are 1-5 DAC channels installed that are configured as sub woofers, this submenu will show, and allow configuration editing for all 5, except for the **#SUBS** parameter. In this case, should a Casablanca III be installed with only one sub channel, this value will allow only one or zero, etc.

If the number of Subs (**#SUBS**) is set to **1**, all low-pass portion of all crossed over speakers and the full **LFE** are routed to the **SUB 1** output. (Labeled **SUB** if there is only one sub output, **LEFT FRONT SUB** or **SUB1** if there is more than one sub output). If the number of **SUBS** is set to more than 1, any low pass signals and LFE will be routed as follows:

If the **#SUBS** is set to 2 they can be either **L-R** or **F-R**. If set to **L-R** (Front Left/Right), any **LFE** and the low pass portion of any front speakers that are crossed over will be routed to the front left/right sub woofers. (The **LFE** is divided by 2, added to any low pass information and distributed evenly between them). If the **#SUBS** is set to **F-R** (2 subs – 1 front and 1 rear), each sub will get half of the **LFE**. The low pass portion of any front speakers that are crossed over will be routed to the front sub whereas the low pass portion of any surround speakers will be routed to

the rear sub woofer.

If the **#SUBS** is **3**, the low pass portion of the front speakers that are crossed over will be routed to the 2 front subs and the low pass from the surround speakers that are crossed over will be routed to the rear sub. **LFE** will be divided by 3 and routed equally between the 3 subs, added to any low pass signal. If there are more than 3 DAC channels assigned to subs yet the **#SUBS** is set to **3**, the third, or rear sub will be output from the channel marked **SUB 3** or **LEFT SURROUND SUB**. When the **#SUBS** is set to **3**, the first 2 will always be the **FRONT LEFT** and **FRONT RIGHT** subs and the third will always be used for low pass signals from the surround speakers, plus some LFE.

If the **#SUBS 4**, each sub will get ¼ of the **LFE**. Additionally, the low pass signal from any front speakers that are crossed over will be routed to the front subs (**SUB 1** and **SUB 2**) and the low pass signal from any surround speakers that are crossed over will be routed to the surround subs (**SUB 3** and **SUB 4**).
In this case, **SUB1** = Left Front Sub, **Sub2** = Right Front Sub, **Sub3** = Left Surround sub and **Sub4** = Right Surround Sub.

If the **#SUBS** is **5**, each sub will get 1/5 of the **LFE**. The low pass signal from the front left/right speakers, if crossed over, will be routed to the front left and right subs. If the center speaker is crossed over, its low pass signal will be routed to the **SUB5** output. The low pass signal from any surround speakers that are crossed over will be routed to the left/right surround subs.

If subs are present in the system, verify that the **#SUBS** is set to equal the number of sub woofers being used (button **# 1** in figure 28), and determine if each one needs to be sent a crossed over or a full range signal. (**FULL** or **XOVER** in the VFD, **FULL RANGE** or **CROSSOVER** on the OSD). **FULL** is only required if the subwoofer contains its own crossover that cannot be defeated. If that this is the case, it is recommended that the subwoofer manufacturer be contacted to see if there is a possible modification to the subwoofer to defeat its crossover. The crossovers in the Casablanca III have been engineered to be superior to any analog crossover, regardless of quality.

Left/Right Speaker Configuration

The left/right configuration section contains the submenus shown in figure 29.

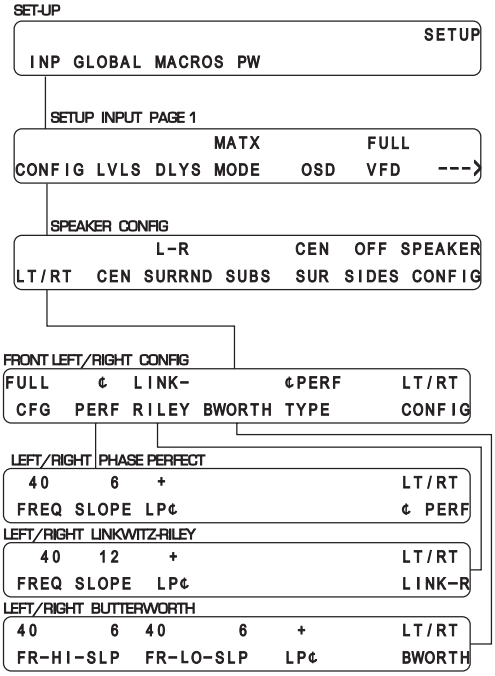


Figure 29 - Menu Map of SETUP/INP *Page 1*/CONFIG/LT/RT

Before proceeding to configure and cross over speakers, it is important to better understand the 3 types of crossovers in order to select the most appropriate crossover type, crossover points and slopes. A discussion about crossovers follows.

Crossovers

The Casablanca III contains a comprehensive set of speaker configuration settings. These settings are believed to be the most complete ever offered in a home theater component and should allow any speaker to perform optimally regardless of speaker type. It is important to bear in mind that the below procedure is merely a guideline and that room acoustics, speaker design / quality, music / movie type, and personal preference all play a part in these settings.

Each full speaker configuration is stored separately for each **INPUT SELECT** button. In **SETUP/INP** *Page 1*, press button **# 1** (labeled **CONFIG** on the VFD, **SPEAKER CONFIGURATION** on the OSD) to access the speaker configuration menu.

In the speaker configuration submenu, pressing buttons **1**-**5** will access additional menus to setup each set of speakers. For each speaker set there are three settings for the crossover type: "Phase Perfect", "Butterworth", and "Linkwitz-Riley". It is possible to select one crossover type for the front left/right speakers, a different one for the center and a third type for the surrounds. It is recommended that in the beginning, the same type be used for all until it is time to fine tune. To help the user better understand the sonic consequences and individual advantages, please refer to the 5 headings of the *Step-By-Step Setup* guide on page 19, that begin with “Phase Perfect” and end with “A Note on Home Theater”.

* * *

Press button **# 1** to set up the front left/right speakers. This configuration submenu is shown in figure 30.

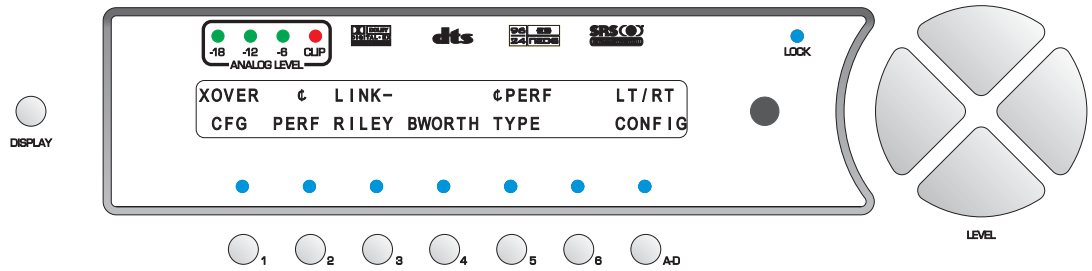


Figure 30 - Front Panel Display of the Front Left/Right Speaker Configuration Submenu

Pressing button **# 1** allows the configuration of the front left/right speakers. If these speakers are not to be crossed over (a portion of their signal sent to the **SUB** output(s)), then the setting should be **FULL**.

FULL/LP is a crossover option which sends the full left/right channel information to the front left/right speakers and duplicates the low pass portion in the subwoofer(s). If FULL/LP is selected, a crossover type must be selected (button **# 5**), and the appropriate crossover frequencies and slopes set up using buttons **2**-**4.**

Note: If the crossover type is Phase Perfect (**ϕPERF**) and the **CFG** type is set to **FUL/LP**, no low pass signal will be created. This is a unique limitation of the Phase Perfect crossover type.

Should it be desired to crossover the front left/right speakers, the **CFG** setting (button **# 1**) should be set to **XOVER** and the crossover frequencies and slopes in the Phase Perfect (**ϕPERF**), Linkwitz-Riley (**LINK-RILEY**) and Butterworth (**BWORTH**) submenus be set using buttons **2**, **3** and **4** respectively.

Note: It is advisable to select the same crossover frequencies and slopes in all 3 crossover type submenus (buttons **2**-**4**), and then toggle the crossover **TYPE** (button **# 5**) and audition each crossover. Initially, this should be done with all other speakers turned off. This procedure should be applied when configuring each speaker set.

Set up the crossovers as follows. Press button **# 2** (**ϕPERF**). This submenu is shown in figure 31.

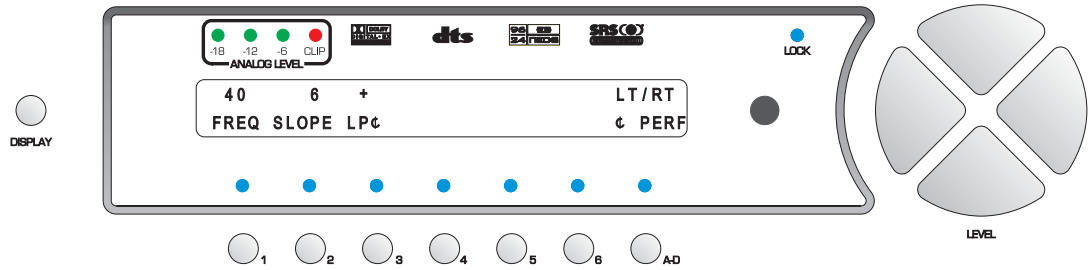


Figure 31 - Front Panel Display of the SETUP/INP/CONFIG/LT/RT/ϕPERF Submenu

Press button **# 1** and select a Phase Perfect crossover frequency for the front left/right speakers, then button **# 2** to set the high pass slope.

Button **# 3** allows the user to invert the low pass phase from 0 (**+**) to 180 degrees out of phase.

		AVAILABLE SETTINGS						
BUTTON	**PARAMETER**							
1	FREQ	40	50	63	80	100	125	160
2	SLOPE	6	12	18	24			
3	LPϕ	-	+					

Table 2 - Available configuration settings for front L/R speaker Phase Perfect crossover.

Press **SETUP** once to return to the front left/right configuration submenu. Press button **# 3** (**LINK-RILEY**) to set up the Linkwitz-Riley crossovers. This submenu is shown in figure 32.

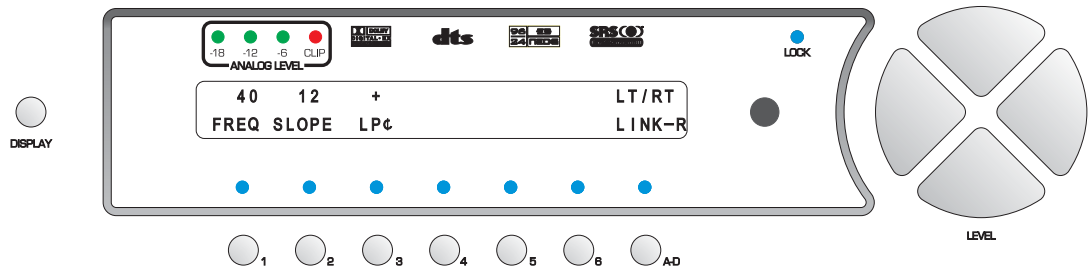


Figure 32 - Front Panel Display of the SETUP/INP/CONFIG/LT/RT/Link-R Submenu

Press button **# 1** and select a Linkwitz-Riley crossover frequency for the front left/right speakers, then button **# 2** to set the high and low pass slope. Button **# 3** allows the user to invert the low pass phase from 0 (**+**) to 180 degrees out of phase.

		AVAILABLE SETTINGS						
BUTTON	**PARAMETER**							
1	FREQ	40	50	63	80	100	125	160
2	SLOPE	12	24					
3	LPϕ	-	+					

Table 3 - Available configuration settings for front L/R speaker Linkwitz-Riley crossover.

Press **SETUP** once to return to the front left/right configuration submenu, then press button **# 4** (**BWORTH**) to set up the Butterworth crossovers. This submenu is shown in figure 33.

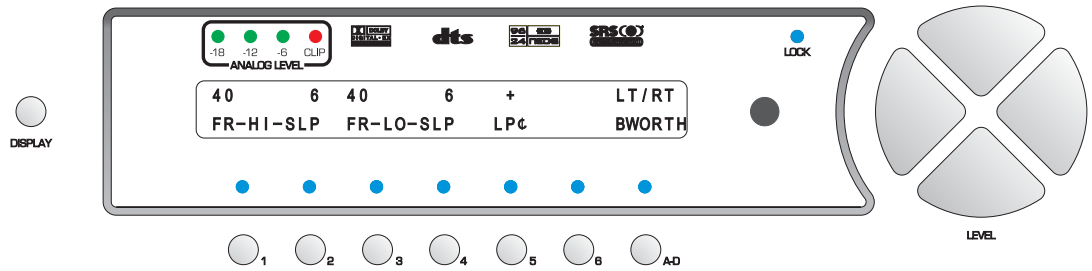


Figure 33 - Front Panel Display of the SETUP/INP/CONFIG/LT/RT/BWORTH Submenu

Press button **# 1** and select a Butterworth high pass crossover frequency, then button **# 2** to set the high pass slope. Press button **# 3** to set the low pass crossover frequency, then button **# 4** to set the low pass slope. Generally speaking, the high and low pass crossover frequencies should be the same unless compensating for unique room or speaker characteristics. Button **# 5** allows the user to invert the low pass phase from 0 (**+**) to 180 (**-**) degrees out of phase.

BUTTON	PARAMETER	AVAILABLE SETTINGS						
1	FR-HI	40	50	63	80	100	125	160
2	FR-HI-SLP	6	12	18	24			
3	FR-LO	40	50	63	80	100	125	160
4	FR-LO-SLP	6	12	18	24			
5	LPϕ	-	+					

Table 4 - Available configuration settings for front L/R speaker Butterworth crossover.

Press **SETUP** twice to return to the speaker configuration submenu, then press button **# 2** (**CEN**) to set up the center speaker. This submenu is shown in figure 34.

Center Speaker Configuration

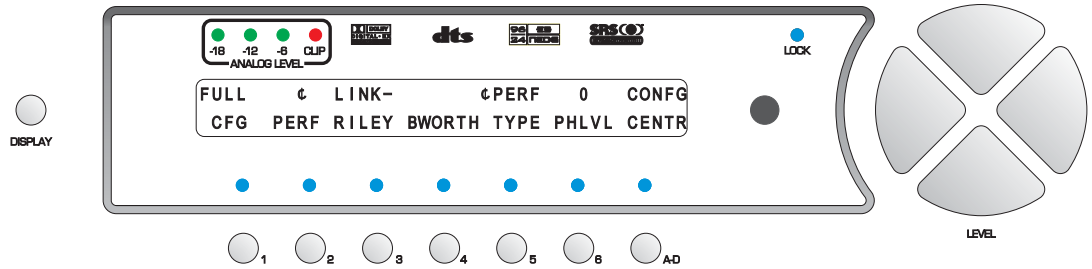


Figure 34 - Front Panel Display of the SETUP/INP/CONFIG/CENTER Submenu

This submenu of settings for the Center speaker is virtually the same as the one for the front left/right speakers, with two additional options. When the **CFG** setting is set to **XOVER** or **FUL/LP**, the low pass signal from the crossed over center will be routed to the sub, if one sub exists, or front left/right subs if there are 2 in the front. This same low pass signal can alternately be routed to the front left/right speakers if the **CFG** setting is **XOVRLR**. If the center low pass signal is routed to the front left/right speakers, and these front speakers are crossed over, the low pass signal from the center stays routed to the front left/right speakers and the low pass signal from the front left/right will then be routed to the subs. If the **#SUBS** is set to **0** and the front left/right **CFG** is set to **XOVER**, the low pass signal of the front left/right will be lost.

Routing the center low pass to the front left/right speakers can be useful with center speakers that have a limited bass response (-3dB @ 100Hz). In this case, the recommended crossover frequency should be set to 160Hz.

If no center speaker is present in the system, the **CFG** parameter should be set to **PHANTM** (phantom). With this setting, the center channel signal is routed to the front left/right speakers. When the center **CFG** is set to **PHANTM**, the user has the ability to adjust the level of the center channel in the front left/right speakers. This can be accomplished via button **# 6** – **PHLVL** (phantom level).

Note: The phantom (**PHTM**) setting for the center speaker creates the illusion of having a center speaker when the listener is positioned equidistant from the front left and right speakers. There is, however, no substitute for a real center speaker as it creates a solid center image even when the listener is positioned off-axis. The phantom setting is most useful on video sources where a more prominent center image is desirable and no center speaker is present. On music sources, **OFF** may be the preferred setting as it maintains the original source's imaging properties.

Pressing button **# 1** allows the configuration of the center speaker. If this speaker is not to be crossed over, then the **CFG** should be set to **FULL**. There is an option where the full range signal can be routed to the center speaker with the low pass part of it also routed to the sub (**FUL/LP**) or the high pass signal going to the center and its crossed over low pass portion being routed to the front left/right speakers as discussed above (**XOVRLR**). Whenever any speaker is crossed over, a crossover type must be selected, and the appropriate crossover frequencies and slopes set.

The center speaker can also be set to **XOVER** or **OFF**. In the case of **OFF**, any center channel information will be lost.

Press button **# 2**, **3** and **4** to set the crossover settings for the center speaker in the same manner as with the front left/right. The crossover menus are the same, with the exception of the speaker name in the upper right corner of the VFD.

Pressing button **# 5** allows the user to select the crossover type that will be applied to the center speaker.

Button **# 6** allows the user to adjust the level of center channel information that is routed to the front left/right channels, if the **CONFIG** parameter is set to **PHANTOM**.

If there are 5 subwoofers in the system, low pass signal from the center speaker will be routed only to the #5 sub. In other words, Sub5 is dedicated to the front center speaker.

Note: A Casablanca III can have a Sub5 or a Surround Center channel.

Press **SETUP** to return to the speaker configuration submenu, then press button **# 3** (**L-R SURRND**) to set up the surround speakers. This submenu is shown in figure 35.

Left/Right Surround Speaker Configuration

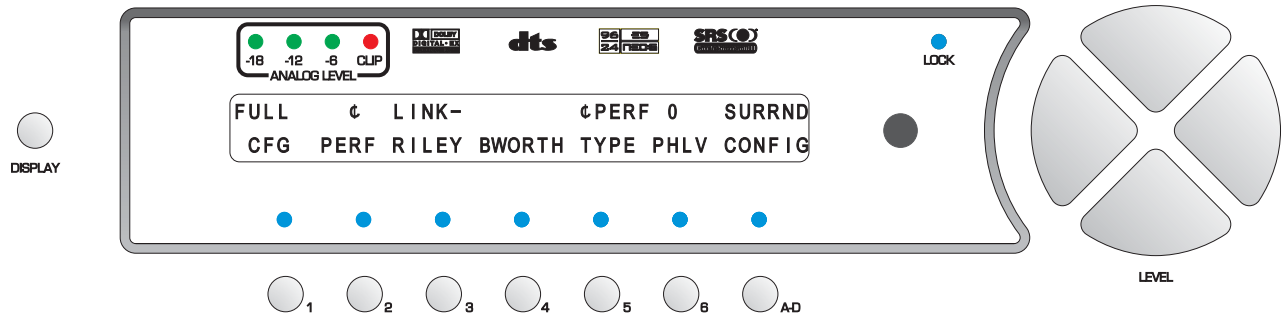


Figure 35 - Front Panel Display of the SETUP/INP/CONFIG/L-R SURRND Submenu

Set the speaker configuration and crossovers, if necessary, in the same manner as with the center speaker. Configuration choices are **FULL**, **FULL/LP**, **XOVER**, **PHANTM** and **OFF**. If the speakers are crossed over, Linkwitz-Riley, Butterworth and Phase Perfect with all crossover points and slope options available.

The phantom (**PHANTM**) setting for the surround speakers should be utilized if no surround speakers are present in the system. In this case, with 5.1 sources, the surround information is added to the front left/right channels. In Dolby Pro Logic mode, the Casablanca III will automatically decode in Dolby 3 stereo. When the left/right surrounds are set to **PHANTM**, the user can adjust their level using the **PHLVL** parameter.

Center Surround Speaker Configuration

Set the center surround speaker configuration and crossovers, if necessary, in the same manner as the left/right surround speakers. The submenu options are the same as L/R. If the center surround **CFG** is set to **PHANTM**, its information is routed to the surround left/right speakers. Use the **PHLVL** (phantom level) parameter to adjust the mix. If the Center Surround speaker is crossed over and there is a rear subwoofer(s), the low pass signal from the center surround will be routed to the rear sub woofer(s).

Side Speaker Configuration

The side speaker information is an exact replica of the left/right surround channels. In the speaker configuration menu, they can be turned on and off. Their levels and delays can be individually adjusted in the levels and delays submenus.

Speaker Levels

This submenu allows the user to set the relative level of each speaker in order to reflect the audio system speaker configuration, room characteristics, or the listener's preference. The allowable relative range is -15dB to +15dB.

Like the speaker configuration menus, the level submenu(s) will reflect the DAC channels that are installed in the Casablanca III. If there are 6 DAC channels installed, the names of these channels will be displayed on one page of the levels submenu. If more than 6 DAC channels are installed, a menu will appear asking the user which set of speakers are to have their levels adjusted: **1-6** or **7-12**, as shown in figure 36. In these submenus, the installed DAC channels, or speaker names, will be displayed.

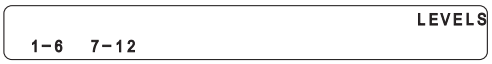


Figure 36 - Front Panel Display of the SETUP/INP/LVLS/Channel Choice Submenu

From the Input Select menu, press **SETUP**, input (**INP**) then levels (**LVLS**) to access the speaker levels setup submenu shown in figure 37. If more than 6 DAC channels are installed, the user must press either button **# 1** (**1-6**) or **# 2** (**7-12**).

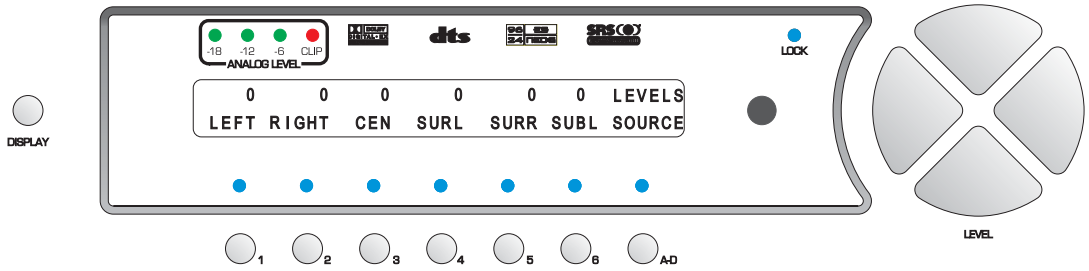


Figure 37 - Front Panel Display of the SETUP/INP/LVLS 1-6 Submenu

If there are more than 6 DAC channels installed, pressing button **# 2** on the Levels Channel Choice submenu will produce a second levels submenu similar to the one shown in figure 38. The speaker names in this submenu will reflect the channels present in the user's Casablanca III.

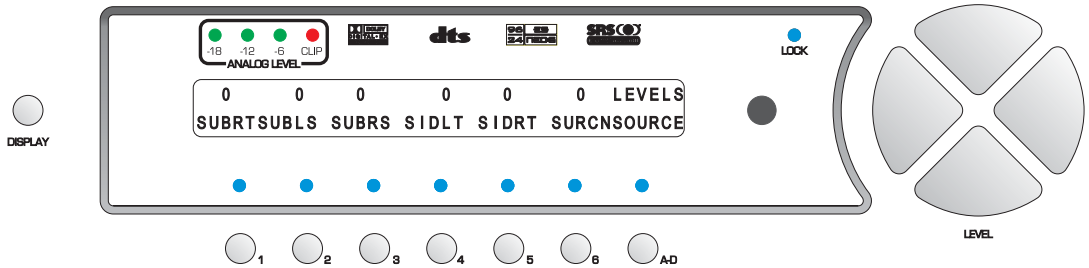


Figure 38 - Front Panel Display of the SETUP/INP/LVLS 7-12 Submenu

In these submenus, press button(s) **1**-**6** to select a speaker to edit. Use the **LEVEL UP**/**DOWN** buttons to adjust each speaker's output level. Use the **LEVEL LEFT/RIGHT** buttons to adjust the master volume. If there is a level control on the sub itself, adjust that first and then fine-tune with the Casablanca III.

Internal Noise Generator

To aid in establishing a desired system speaker level balance, the Casablanca III provides the user with the option of routing the currently selected audio signal, an internally generated noise signal to all speakers simultaneously or to a selected speaker.

This function is accessed via the **A-D** button in the **SETUP**/**INP**/**LVLS** submenu(s). Press buttons **1**-**6** to select a speaker. Pressing the **A-D** button repeatedly toggles through these sources. Table 5 shows the 3 possible routings. When the **A-D** button is pressed, the source name or noise type will appear in the VFD below the submenu title.

Press A-D Button	*MODE*	*SOURCE USED*
-	Selected Input	AUDIO INPUT
Once	Noise - all speakers	NOISE A
Twice	Noise - one (selected) speaker	NOISE 1

Table 5 - Source to Output Routing for Speaker Level Configuration.

When use of the noise generator is complete, press **A-D** to once again re-route the **SOURCE** to the outputs.

Note: It is recommended that levels be set relative to the Front Left and Right speakers. First adjust the Front Left and Right level value(s) to zero dB. With the noise generator set to output to the left front speaker, adjust the master volume. The remaining speakers can be adjusted accordingly by pressing buttons **2-6** one at a time, then pressing **LEVEL UP** or **LEVEL DOWN** to increase or decrease each speaker's relative level using an SPL meter, until the desired system balance is established. Please refer to the detailed *Step-by-Step Setup Guide* on page 17.

Speaker Delays

Like the Levels submenu(s), the Delays submenu(s) are interactive. Only installed DAC channels will appear in the Delays submenu. If there are two Delays submenus, the **A-D** button will toggle between them.

The Delays submenu allows the user to set a time delay for each speaker to reflect the audio system configuration, room characteristics, or the listener's preference. The sound from all speakers should reach the listening position at the same time, and this submenu provides a means for achieving just that. The allowable range for the front left/right, center and sub speaker(s) is **0** to **10** milliseconds (mS) and **15** to **31** mS for the side and surround speakers. Since discrete sources are often recorded with surround delays, it is recommended that the surround delay setting for 5.1 sources be 15 mS less than non 5.1 sources.

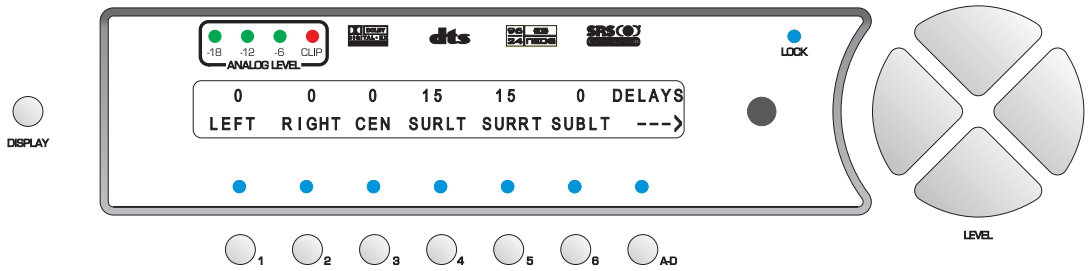


Figure 39 - Front Panel Display of the SETUP/INP/DELAYS 1 Submenu

Press **SETUP**, input (**INP**) then delays (**DLYS**) to access the speaker delays setup submenu shown in figure 39. The current delay settings will be displayed on the top row of the VFD. The submenu title "**DELAYS**" will be displayed in the upper right corner. Delay settings apply to all **MODES**, however, they can be further manipulated when the **MODE** is Dolby Digital, DTS or Circle Surround, via additional Setup submenus for these **MODES**. These additional Setup features and respective submenus are discussed further in this section.

The first time a multi-channel audio system is set up in a room, calibration of time delay [and speaker levels] is required in order to have the sound from each individual speaker reach the listener at the correct time.

If more than six DAC channels are installed in the Casablanca III, there will be a right arrow above the **A-D** button. Press this button, and the second Delay page will be presented as shown in figure 40.

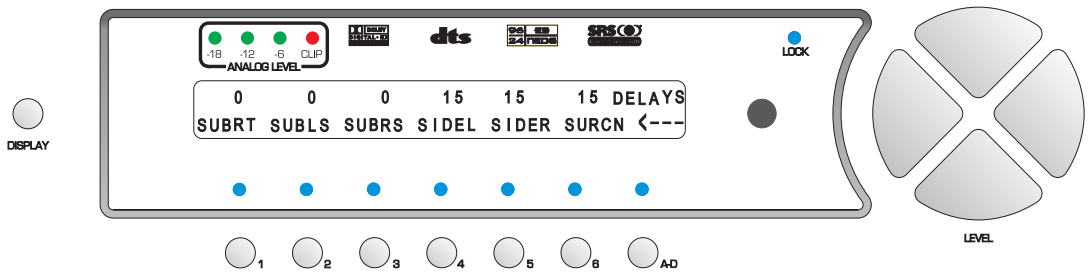
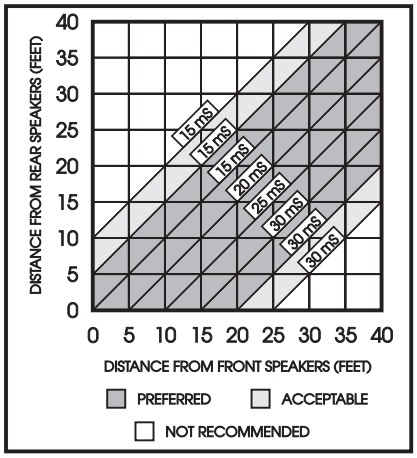


Figure 40 - Front Panel Display of the SETUP/INP/DELAYS 2 Submenu

Speaker delay is required if a speaker is closer to the listening position than the front left and right speakers. When this is the case, the delay time should be 1mS for each foot difference.

Begin by measuring the distance (in feet) from each speaker to the listening position. Write down all of these values. Ideally, the front left/right and center speakers will all be the same distance to the listening position. In this case, set the front left/right and center speaker delays to 0mS. If the center speaker is closer, delay it 1mS for each foot of difference between the center and front left/right, to the listening position. If the front left/right speakers are closer than the center, then set the center delay at 0 and delay the front left/right speakers, again, 1mS for each foot of difference from the listening position.



To determine a delay time for the surround left/right speakers, measure the distance (in feet) from the listening position to the front left/right, then from the listening position to the surround left and right speakers. Subtract the front left and surround left distance from the front right and the surround right distance. Add this number to the existing delay value of the surround left/right speakers. (1 mS/foot). The chart in figure 41 can also be used to calculate the surround left/right delay values.

Figure 41 - Rear Delay Settings

For the surround center delay, take the difference (in feet) between the center surround speaker and the listening position and the surround left or right to the listening position. Add this value to the existing [default] surround center delay value (1ms per foot of difference).

To set the side speaker delays, calculate the difference (distance in feet) between the left side and left front speakers. Add the difference to the default value already set for the left side to give this speaker its new value.

Calculate the difference (distance in feet) between the right side and right front speakers. Add the difference to the default value already set for the right side to give this speaker its new value.

Because of the properties of low frequencies, a delay in the subwoofer(s) is virtually undetectable. This being the case, it may be appropriate to leave the subwoofer delay values set at 0. However, if any subwoofer is closer to the listening position than the front left/right speakers, a delay value can be set for these subs. The delay value will be the difference (in feet) between the sub itself and the front left or right speaker, to the listening position.

Default Mode

Each **INPUT SELECT** button can have a different default **MODE** assigned to it. To assign a default **MODE** for a given **INPUT SELECT** button, press the applicable **INPUT SELECT** button, **SETUP**/**INP** (input) then button **# 4** (**MODE**). See figure 25 on page 52. Edit this parameter to select the desired default **MODE**, then press **SETUP** twice to exit. Repeat this procedure for each **INPUT SELECT** button.

Note: Pressing the front panel **MODE** function button allows the user to audition different modes for a given source, when applicable. Changing modes via the **MODE** button does not store a mode selection.

Onscreen Display (OSD) Setup

The OSD setup feature allows the user to customize the on screen displays and the **STATUS** display.

Pressing **SETUP**, **INP** then **OSD** (button **# 5** in figure 22) activates the OSD set up menu, shown in figure 42.

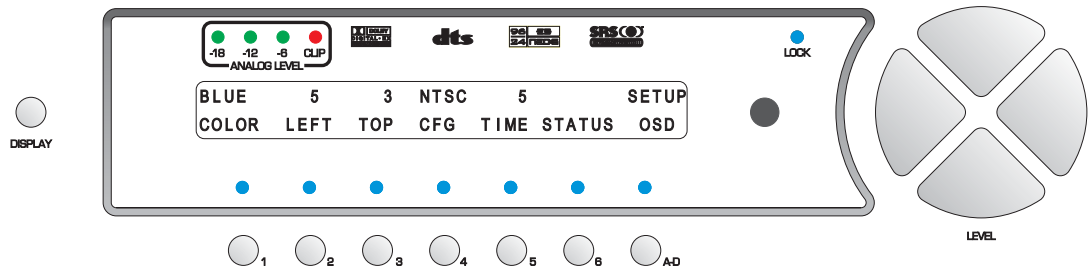


Figure 42 - Front Panel Display of the SETUP/INP/OSD Submenu

Button **# 1** (**COLOR**) allows the user to select 7 different OSD background colors.

The OSD can be offset from the left and top edges of the screen (button **#s 2** and **3** respectively) to accommodate differences in monitors.

The configuration (**CFG**) feature switches the Casablanca III's OSD to accommodate either an **NTSC** or **PAL** monitor.

When a function button is pressed, its OSD will remain on the screen until the user exits from all function menus. The display **TIME** (in seconds) setting allows the user to set the amount of time (delay) that the video monitor displays the **INPUT SELECT** menu, when changing inputs. (If the VFD is turned off (in the **SETUP/INP *Page 1*** submenu button **# 6** in figure 22, page 52) and any button is pressed, the VFD will revert to full brightness for the amount of seconds in the **TIME** parameter). Setting the **TIME** value to **0** turns off the OSD for the currently selected input.

Status Setup

STATUS (button **# 6**) displays a 2 page submenu, which allows the user to determine which information, and its position on the video monitor. This submenu is shown in figure 43.

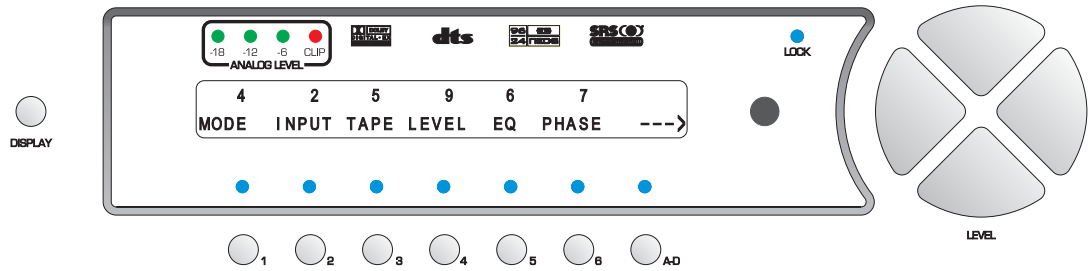


Figure 43 - Front Panel Display of the SETUP/INP/OSD/STATUS 1 Submenu

The items in the two **STATUS** submenus are displayed in the OSD when the **STATUS** button on the hand-held remote is pressed. Changing any value to **0** removes that item from the OSD. The value range is **0** through **10**. **1** displays the highest vertical position and **10** the lowest.

Press the **A-D** button for the second **STATUS** setup page to change the OSD positions of **SOURCE** and **SRATE** (sample rate).

Note: There will be uncertain results if more than one item is displayed on the same line.

VFD Brightness

Each **INPUT SELECT** button can have a different VFD brightness assigned to it. Pressing button **# 6** in figure 25 (page 52) allows the user to change the default brightness to **OFF, ¼, ½, ¾** or **FULL** brightness. Changes to this parameter are reflected the next time that **INPUT SELECT** button is pressed. If this value is set to **OFF**, pressing any button except **DISPLAY** will automatically brighten the VFD to the maximum level. If the button pressed is not another **INPUT SELECT** or function button, then the VFD will revert back to its default brightness in *X* seconds. *X* represents the **TIME** parameter value in the **SETUP/INP *Page 1*/OSD** submenu. If the VFD is on but not set to **FULL**, it will remain at the default brightness until a different **INPUT SELECT** button is selected. The **DISPLAY** button will override the default VFD brightness setting. The **Display Time** feature takes precedent over the VFD brightness parameter. See details regarding the **Display Time** parameter on page 79.

Setup Input Page 2

The **SETUP/INP** ***Page 2*** section contains the submenus shown in figure 44.

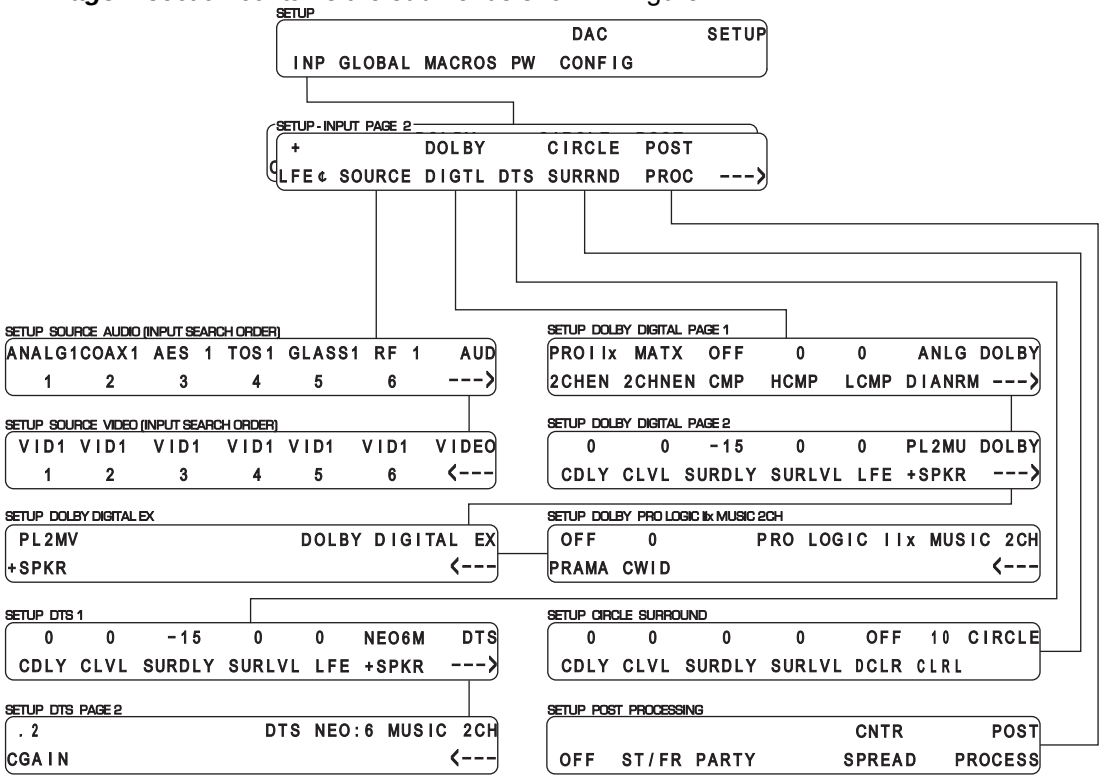


Figure 44 - Menu Map of SETUP/INP *Page 2*

To access this page press **SETUP**, **INP** (input), then the **A-D** button once. Page 2 of the **SETUP/INP** menu is shown in figure 45.

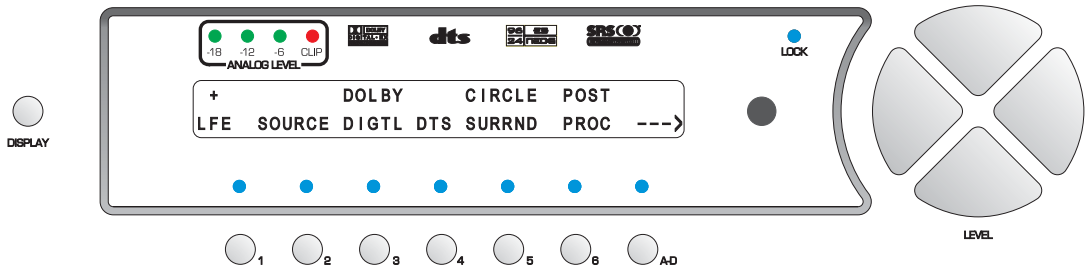


Figure 45 - Front Panel Display of the SETUP/INP *Page 2* Submenu

LFE Phase

The **LFE** phase can be **+** (in phase) or **–** (180 degrees out of phase). This can be edited via button **# 1** and is applicable to the currently selected input.

Mapping Audio and Video Sources (Input Jack to INPUT SELECT button)

Pressing button **# 2** accesses 2 submenus which allow the user to assign the audio and video jacks that will be active on the currently selected **INPUT SELECT** button. One page is for audio jack mapping and the other one for the combined composite, S and multi format video jack mapping. Up to six audio and six video input jacks can be mapped to each **INPUT SELECT** button. The order in which they are mapped determines the search order when pressing the **A-D** button from the **INPUT SELECT** menu.

Press the **SOURCE** button (button **# 2**) once to display the 'Setup Audio Source' submenu, shown in figure 46, will be displayed.

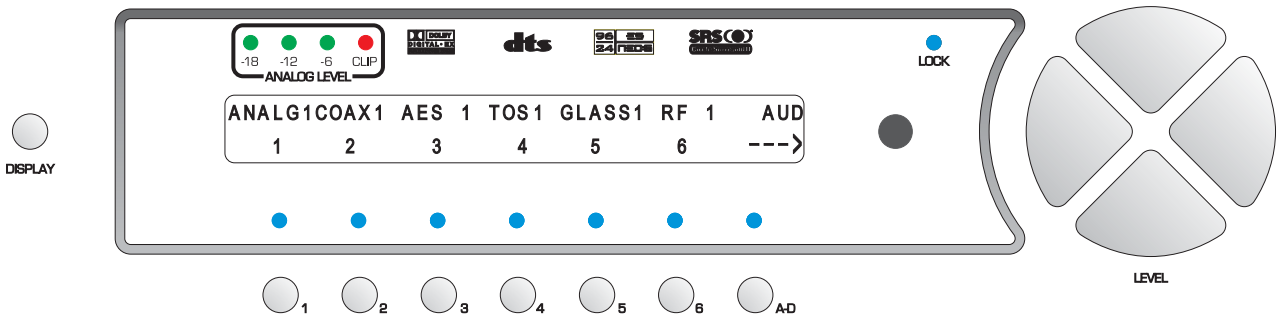


Figure 46 - Front Panel Display of the SETUP/INP *Page 2*/SOURCE/AUD Submenu

The default jack names reflect the type of jack on the rear panel. It is suggested that all active audio and video input jacks be named before mapping them to a given **INPUT SELECT** button.

The **INPUT SELECT** buttons can be set up with 2 theories in mind. The most common used is to assign one source device to each **INPUT SELECT** button. Figure 15 on page 42 depicts this setup. Another option is that each person in a household can use one or two **INPUT SELECT** button(s) for himself or herself, and have up to 6 source devices mapped to "their" **INPUT SELECT** button(s). Figure 43 depicts this setup. This manual is written with the first theory in mind since as it the most commonly practiced.

To map input jacks, first press the **INPUT SELECT** button. Press **SETUP**, **INP**, **A-D**, then **SOURCE**. To map the first audio input jack, press button **# 1** and use the **LEVEL UP/DOWN** buttons to select the appropriate jack. If another input jack is to be assigned to the same **INPUT SELECT** button, press button **# 2** and select the desired rear panel input jack using the **LEVEL UP/DOWN** buttons. If only one mapped source is desired, choose **OFF** in this position. Continue with this method for up to 6 input jacks per Input Select button.

An example of this use is for a Laserdisc/DVD/CD transport where the first jack to be assigned could be the **RF-1** jack, the second could be the **COAXIAL 1** input jack. In this example, when an LD is being played, the user would press the **INPUT SELECT** button that is 'assigned' to this transport. If **RF-1** (or the name assigned to this input jack) is not displayed in the lower right hand corner of the VFD, press the **A-D** button until it is displayed. When a CD is to be played in this transport, press the **A-D** button once to display **COAXIAL 1** (or the name assigned to this input jack) in the lower right hand corner of the VFD. The default **MODE** for this **INPUT SELECT** jack should be that which is desired for the playback of CDs, as when the Casablanca III detects either a Dolby Digital AC-3 RF or any 5.1 data stream, it will automatically change the **MODE** to Dolby Digital or DTS.

Press **SETUP** 3 times then repeatedly press the **A-D** button to toggle between the input jacks for the currently selected **INPUT SELECT** button. Map only the input jacks that will be used, to the currently selected **INPUT SELECT** button. This will eliminate needless pressing of the **A-D** button to cycle through unused jacks.

Note: When input jacks are re-assigned and the user exits **SETUP**, the new input jack mappings will not be active until either the **A-D** button is pressed or another **INPUT SELECT** button is pressed.

Next, map the appropriate video input jacks, if applicable, to the same **INPUT SELECT** button. In the case of the above example where the **RF-1** jack is the first audio jack mapped to the currently selected **INPUT SELECT** button, the laserdisc video input jack must be mapped first in the video search order. Since the LD's audio jack is second in the audio search order, it must also be mapped second in the video search order.

Continuing this example, if a source device has both an audio and a video signal associated with it, and the audio signal is third in the audio search order, then its video signal must be third in the video search order.

To map a video signal to an **INPUT SELECT** button, first press the desired **INPUT SELECT** button, then press **SETUP**, **INP**, **A-D**, **SOURCE** and **A-D** once again. Press the appropriate button (**1**-**6**) which corresponds to the same position in the audio search order menu for this source device and press the **LEVEL UP/DOWN** button to select the desired video input jack.

Press the **SETUP** button 3 times to return to the **INPUT SELECT** page.

Setup Dolby Digital

In figure 45, button **# 3** provides a three-page submenu which allows the user to set up preferences pertaining to Dolby Digital and Dolby Pro Logic IIx, by **INPUT SELECT** button. The first page of this submenu is shown in figure 47. These settings apply only when the **MODE** is one of the Dolby Digital processes.

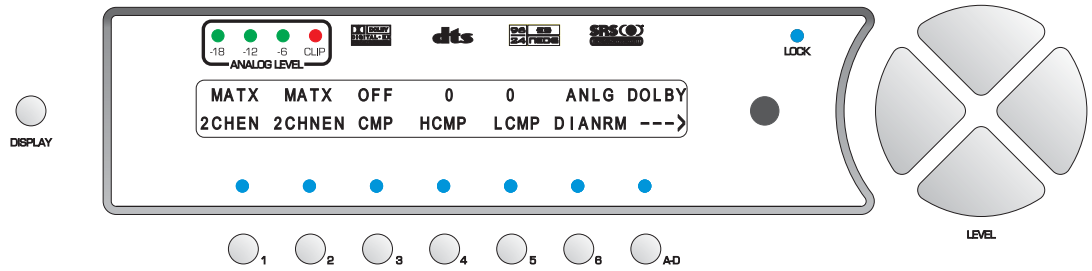


Figure 47 - Front Panel Display of the SETUP/INP *Page 2*/DOLBY DIGITAL *Page 1* Submenu

2-Channel Mode

Some Dolby Digital sources contain only two of the possible five to seven main channels. This is usually noted on the material's cover, in the form of "Dolby Digital 2.0" or "Dolby Surround" as opposed to "Dolby Digital 5.1, 6.1 or 7.1".

Embedded in most two-channel Dolby Digital data streams is an indication of whether or not the material is Dolby Surround encoded. There are three possibilities for this indication: Dolby Surround Encoded; Not Dolby Surround Encoded; or No Indication.

Regardless of the indication, the user can instruct the Casablanca III to process this decoded signal in virtually any **MODE**. For Dolby Surround encoded signals, press button **# 1** (**2CHEN** – or two-channel encoded) and use the LEVEL UP/DOWN buttons to select the **MODE** to be applied to Encoded 2 channel Dolby Digital signals. For a non-encoded signal, press button **# 2** (**2CHNEN** – or 2-channel non-encoded) to select the **MODE** for further processing. When a mode is applied to a two-channel Dolby Digital signal, the signal Is first Dolby Digital decoded, then the decoded signal is further manipulated by applying the mode set in the **2CHEN** or **2CHNEN** parameters. If this is the case, and the additional selected mode is **MATRIX**, the **MODE** displayed in the VFD when in the **INPUT SELECT MENU** will read "**DOLBY DIGITAL + MATX**". If the additional selected mode is **STEREO**, the **MODE** displayed in the VFD when in the **INPUT SELECT MENU** will read "**DOLBY DIGITAL + STEREO**".

If the indication is that the signal is not Dolby Surround encoded, or there is no indication, and the **2CHNEN MODE** is set to Dolby Digital, no additional surround processing will occur, resulting in a two-channel (stereo) output.

Compression (Night Mode)

Dolby Digital contains provisions for reducing the dynamic range of a Dolby Digital source. This means reducing the loudness of the loud passages and increasing the loudness of the quiet passages. Possible reasons for reducing the dynamic range of a source include late night listening wherein loud moments may disturb others, and making tapes for automotive / portable use wherein quiet passages may not be heard.

Casablanca III contains three parameters to control Dolby Digital compression. Button **# 3** (**CMP**) turns the compression **ON** or **OFF**. Button **# 4** (**HCMP**, or High Compression) controls the degree to which loud passages will be reduced. Button **# 5** (**LCMP**, or Low Compression) controls the degree to which quiet passages will be increased.

Note: Some Dolby Digital sources do not allow for compression, in which case altering these settings will have no effect.

Dialog Normalization

Press button **# 6** to set the dialog normalization value. Dolby Digital contains the useful provision for making all Dolby Digital sources play back at the same average volume level, even though they have been recorded or mixed at very different levels. This is done by embedding in the data stream a value that the program material will need to be adjusted by to conform to an average dialog level established by Dolby Laboratories. It should be noted that the relative levels of all channels are adjusted, not just the center channel. Casablanca III contains two options for this setting: **ANLG** (analog) or **DIGI** (digital).

ANLG: Dialog normalization will be applied in the analog domain. This is the best-sounding and preferred

setting.

DIGI: Dialog normalization will be performed in the digital domain. Digital reduction of volume results in a significant loss of resolution.

* * *

Press the **A-D** button to access *Page 2* of the Dolby Digital set up submenu, which is shown in figure 48.

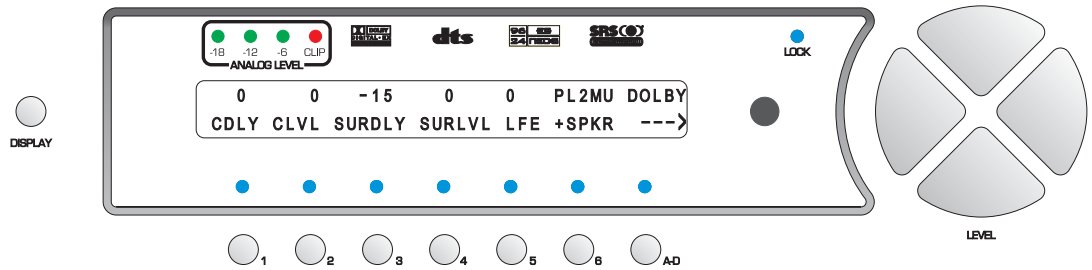


Figure 48 - Front Panel Display of the SETUP/INP *Page 2*/DOLBY DIGITAL *Page 2* Submenu

This submenu allows the user to adjust the center, side and surround speaker delays and levels, **LFE** level and processing for additional speakers when the **MODE** is Dolby Digital.

It is important to note that the level and delay settings in this submenu are added to or subtracted from those in the main **SETUP/INP/LEVELS** and **SETUP/INP/DELAYS** submenus. For example: if the center level (**CLVL**) in this submenu is set to **–2** and the center level in the **SETUP/INP/LEVELS** submenu were set to **+3**, the overall center level, when the **MODE** for the currently selected input is Dolby Digital, would be **+1**. This same process applies to the delays.

It is important to note that the Casablanca III does not support negative delays based on the theory that even we at Theta cannot make time go backwards. Therefore the sum of the delays cannot be less than **0**. As an example, if the center delay in the **SETUP/INP/DELAYS** submenu were set at **0** and in the Dolby Digital setup submenu set at **–1**, the overall center delay would be **0**.

Note: If the incoming signal is Dolby 2.0 with a surround indication bit set at surround, and the **2CHEN** mode set to Circle Surround, the delay settings in the **DELAYS** submenu are interactive with the ones in the **CIRCLE SURROUND** setup submenu and not with those in the **DOLBY DIGITAL** setup submenu.

In this submenu: button **# 1** offsets the center speaker's delay [from the **SETUP/INP/DELAYS**]; button **# 2** offsets the center level; button **# 3** offsets the surround left/right, sides and center surround delay; and button **# 4** offsets the surround left/right, sides and center surround level.

Button **# 5** controls the **LFE** gain setting for Dolby Digital sources containing an **LFE** (low frequency effects) channel. i.e. 5.1, 6.1 or 7.1 signals. This channel commonly contains sound effects such as explosions, but may also contain soundtrack information. Casablanca III offers the user an **LFE** range of between **OFF** and **-30** for this setting. **OFF** may be useful for late night viewing or if there isn't a subwoofer / speaker capable of handling the low frequencies contained in the LFE channel. **0** dB, the preferred setting, maintains the **LFE** setting in proper proportion to the remaining five discrete channels. Any other setting lowers the normal **LFE** level, in dB, by the value set.

If the incoming signal is Dolby Digital 5.1, and the user desires to create sides or a center surround channel, use the **+SPKR** (or Additional Speakers) parameter to indicate which **MODE** will be used to create them. There are a limited amount of modes that can do this. They are displayed in Table 6.

VFD	DEFINITION
OFF	No additional speaker signals will be created.
THETA	Theta Proprietary Processing
DTSES	DTS ES
NEO6M	DTS NEO:6 Music
NEO6C	DTS NEO:6 Cinema
PL2MU	Dolby Pro Logic IIx Music
PL2MV	Dolby Pro Logic IIx Movie

Table 6 – Additional Speaker Modes for Dolby Digital Source.

Press the **A-D** button to access Page 3 of the Dolby Set Up submenu. This page contains parameters used when the mode is Dolby Digital EX. This menu is shown in figure 49a.

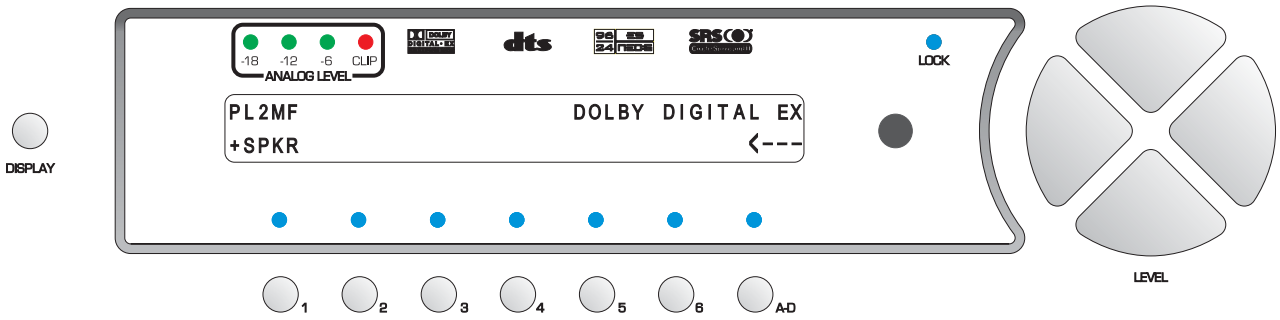


Figure 49a - Front Panel Display of the SETUP/INP *Page 2*/DOLBY *Page 3* EX Submenu

When the system has more than 5.1 channels and the incoming Dolby Digital signal is flagged as EX, then the additional channels (**+SPKR**) can be created using one of the processes selected by pressing button **# 1**, or turned off.

Press the **A-D** button to access Page 4 of the Dolby Set Up submenu. This page contains parameters used when the mode is Dolby Pro Logic IIx Music. This menu is shown in figure 49b.

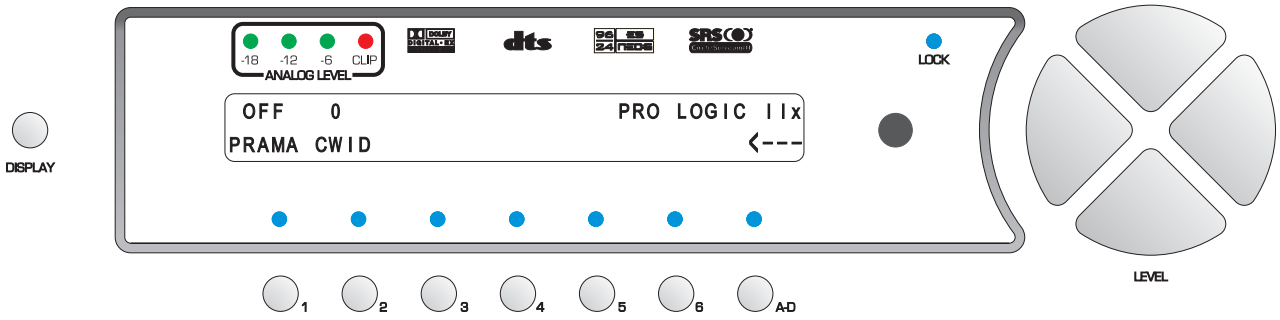


Figure 49b - Front Panel Display of the SETUP/INP *Page 2*/DOLBY *Page 3* PLIIx Submenu

The Panorama (**PRAMA**) feature, when **ON** (button **# 1** in figure 49b), extends the front stereo image to include the side or surround speakers. This gives a "wraparound" effect with sidewall imaging. It is particularly effective for recordings which have strong left - or right- channel elements in the mix, as these are detected and accentuated by the Panorama process. The Panorama feature is typically intended for use with Music Mode. See figure 49c

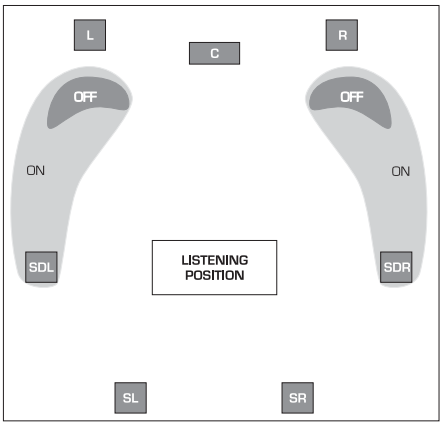


Figure 49c – Diagram of Panorama Effect

With Pro Logic IIx decoding, dominant center signals can come only from the center speaker. The Center Width (**CWID**) control allows variable adjustment of the center image so that it may be heard only from the center speaker; only from the left/right speakers as a phantom image; or from all three front speakers to varying degrees. The range is from 0 to 7. See figure 49d.

When all settings are made, pressing the **SETUP** button 3 times returns the user to the **INPUT SELECT** menu.

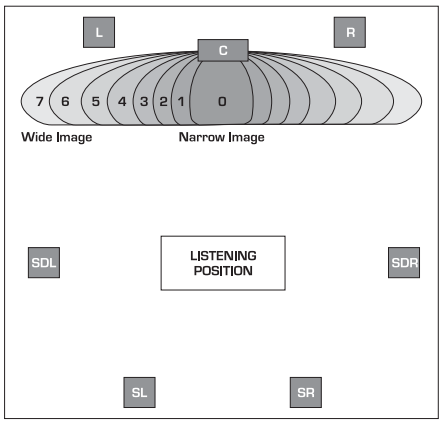


Figure 49d – Diagram of Center Width Values

Setup DTS

To access the DTS Setup submenu shown in figure 50, press **SETUP/INP/A-D/DTS**.

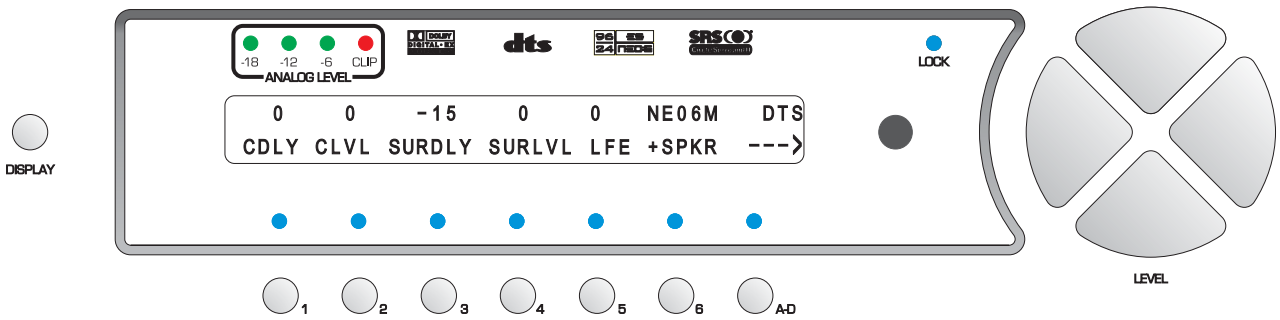


Figure 50 - Front Panel Display of the SETUP/INP *Page 2*/DTS 1 Submenu

This submenu allows the user to adjust the center, side and surround speaker delays and levels as well as the **LFE** and additional speaker source, when the **MODE** is DTS, for the currently selected input. When the Mode is not DTS, settings in this submenu will have no effect. As with the settings in the Dolby Digital Setup submenus, these DTS settings are interactive with those in the **SETUP/INPUT/LEVELS** and **SETUP/INPUT/DELAYS** submenus.

It is important to note that the level and delay settings in this submenu are added to or subtracted from those in the main **SETUP/INP/LEVELS** and **SETUP/INP/DELAYS** submenus. For example: if the center level (**CLVL**) in this submenu is set to **–2** and the center level in the **SETUP/INP/LEVELS** submenu were set to **+3**, the overall center level, when the **MODE** for the currently selected input is DTS, would be **+1**. This same process applies to the delays. However, the Casablanca III does not support negative delays based on the theory that even we at Theta cannot make time go backwards. Therefore, as an example, if the center delay in the **SETUP/INP/DELAYS** submenu were set at **0** and in the DTS setup submenu set at **–1**, the overall center delay would be **0**.

In this submenu: button **# 1** offsets the center speaker's delay [from the **SETUP/INP/DELAYS**]; button **# 2** offsets the center level; button **# 3** offsets the surround left/right, sides and center surround delay; and button **# 4** offsets the surround left/right, sides and center surround level.

Button **# 5** controls the **LFE** gain setting for DTS sources containing an **LFE** (low frequency effects) channel. i.e. 5.1, 6.1 or 7.1 signals. This channel commonly contains sound effects such as explosions, but may also contain soundtrack information. Casablanca III offers the user an **LFE** range of between **OFF** and **-30** for this setting. **OFF** may be useful for late night viewing or if there isn't a subwoofer / speaker capable of handling the low frequencies contained in the LFE channel. **0** dB, the preferred setting, maintains the **LFE** setting in proper proportion to the remaining five discrete channels. Any other setting lowers the normal **LFE** level, in dB, by the value set.

If the incoming signal is DTS 5.1, and the user desires to create sides or a center surround channel, use the **+SPKR** (Additional Speakers) parameter to indicate which **MODE** will be used in their creation. The modes available are:

VFD	DEFINITION
OFF	No additional speaker signals will be created.
THETA	Theta Proprietary Processing
DTSES	DTS ES
NEO6M	DTS NEO:6 Music
NEO6C	DTS NEO:6 Cinema
PL2MU	Dolby Pro Logic IIx Music
PL2MV	Dolby Pro Logic IIx Movie

Table 7 – Additional Speaker Modes for DTS Source.

Note: The **+SPKR** setting has no effect (is bypassed) if the mode is DTS 96/24, DTS ES Matrix or Discrete.

Pressing the **A-D** button once will take the user to the second DTS Setup page, shown in figure 51.

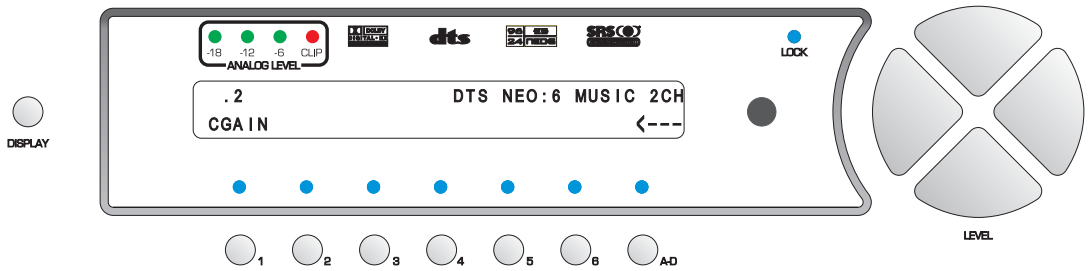


Figure 51 - Front Panel Display of the SETUP/INP *Page 2*/DTS 2 Submenu

In Cinema Mode, for Left/Right film soundtracks, sounds steered to the Center is subtracted from the Left/Right channels. (In Music Mode, the Center is never fully subtracted from the Left/Right channels).

CGAIN is the parameter which controls the amount of subtraction. It varies between **0** and **0.5** in steps of 0.1 and the default value is **0.2**.

When **CGAIN** is set at **0**, nothing is subtracted from the Left and Right channels. When **CGAIN = 0.5**, the Center channel is subtracted from the Left and Right channels at -6dB for each channel. The signal level sent to the Center channel is not affected by **CGAIN**. The **CGAIN** parameter will have an effect only when the mode is NEO:6 Music.

When all settings are made, press **SETUP** 3 times to return to the **INPUT SELECT** menu.

Setup Circle Surround II

To access the Circle Surround II Setup submenu shown in figure 52, press **SETUP/INP/A-D/CIRCLE SURROUND**.

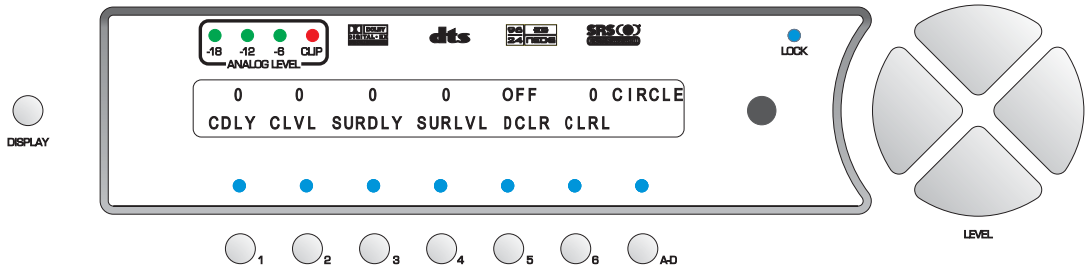


Figure 52 - Front Panel Display of the SETUP/INP *Page 2*/CIRCLE SURRND II Submenu

This submenu allows the user to adjust the center, side and surround speaker delays and levels when the **MODE** is Circle Cinema, Music or Mono. When the Mode is not a Circle Surround II process, the settings in this submenu will have no effect.

It is important to note that the level and delay settings in this submenu are added to or subtracted from those in the main **SETUP/INP/LEVELS** and **SETUP/INP/DELAYS** submenus. For example: if the center level (**CLVL**) in this submenu is set to **–2** and the center level in the **SETUP/INP/LEVELS** submenu were set to **+3**, the overall center level, when the **MODE** for the currently selected input is DTS, would be **+1**. This same process applies to the delays. However, the Casablanca III does not support negative delays based on the theory that even we at Theta cannot make time go backwards. Therefore, as an example, if the center delay in the **SETUP/INP/DELAYS** submenu were set at **0** and in the DTS setup submenu set at **–1**, the overall center delay would be **0**.

In this submenu: button **# 1** offsets the center speaker's delay [from the **SETUP/INP/DELAYS**]; button **# 2** offsets the center level; button **# 3** offsets the surround left/right, sides and center surround delay; and button **# 4** offsets the surround left/right, sides and center surround level.

With Circle Surround, the user also has the option to adjust the Dialog Clarity (**DCLR**). This parameter helps to make the dialog more discernable, above rest of the audio track.

Use button **# 5** to turn Dialog Clarity **ON** or **OFF**. Button **# 6** is used to set the Clarity Level (**CLRL**). The range is **0**-**10**, where **0** is **OFF**.

When all settings are made, press **SETUP** 3 times to return to the **INPUT SELECT** menu.

Post Process

To access the Post Process submenu shown in figure 53, press **SETUP**/**INP**/**A-D**/**POST PROC**.

This submenu allows the user to select an additional process to add to the incoming signal after it has been processed/decoded via the selected **MODE**. Only one post process can be selected per **INPUT SELECT** button.

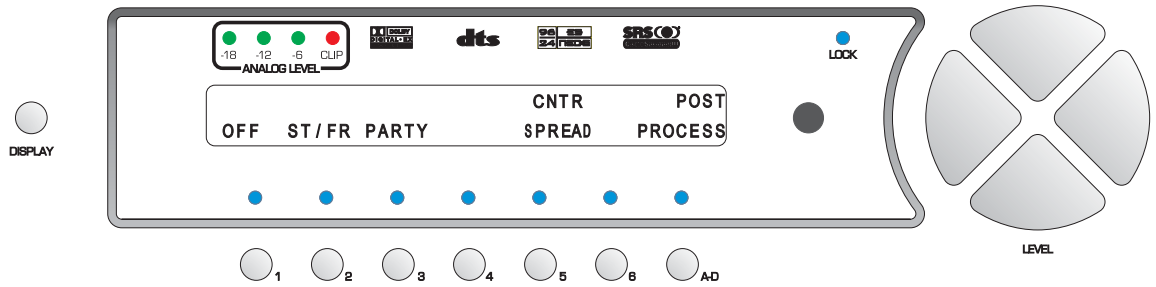


Figure 53 - Front Panel Display of the SETUP/INP *Page 2*/POST PROCESS Submenu

The available post processing options are:

OFF, which applies no further processing;

Stereo Front/Rear (**ST/FR**), which takes signals from the front and surround lefts, adds them together and outputs this sum equally to the front left and surround left speakers. The same applies for the right front and surround speakers. The process varies slightly, depending on whether the **MODE** is matrix, stereo or mono;

Party, which takes parts of each original channel's signal, blends them with all others and outputs this mix to all speakers. Each speaker will have a blend of all speakers;

Center Spread (**CNTR SPREAD**) is a process in which the center speaker level is reduced and added to the front left/right speakers. Press button **# 5** to enable Center Spread. The level of processing is set in the **SETUP**/**INP**/***page 3*** submenu, under the **CTRSPD** parameter.

Setup Input Page 3

The **SETUP**/**INP** ***page 3*** section contains the submenus shown in figure 54.

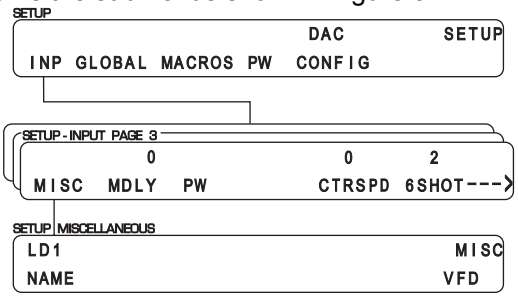


Figure 54 - Menu Map of SETUP/INP *Page 3*

Press **SETUP**, **INP** and **A-D** twice to enter the **SETUP**/**INP** *page 3* submenu shown in figure 55.

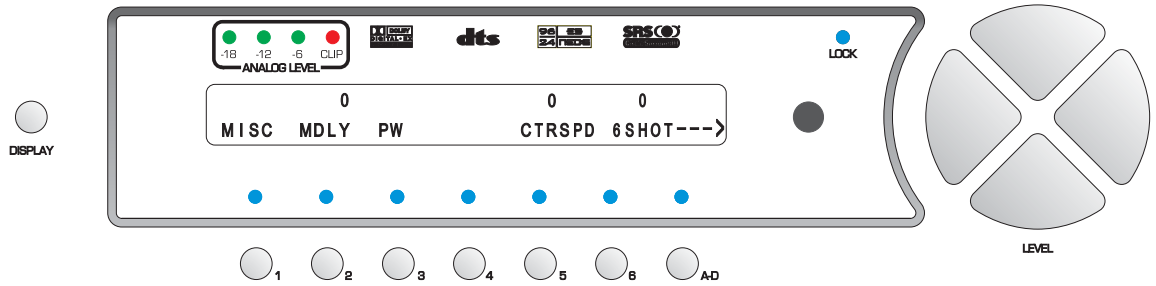


Figure 55 - Front Panel Display of the SETUP/INP *Page 3* Submenu

Setup Miscellaneous

Press **SETUP**, **INP**, **A-D** twice, **MISC** and button **# 1** to enter the **MISC** submenu, shown in figure 56.

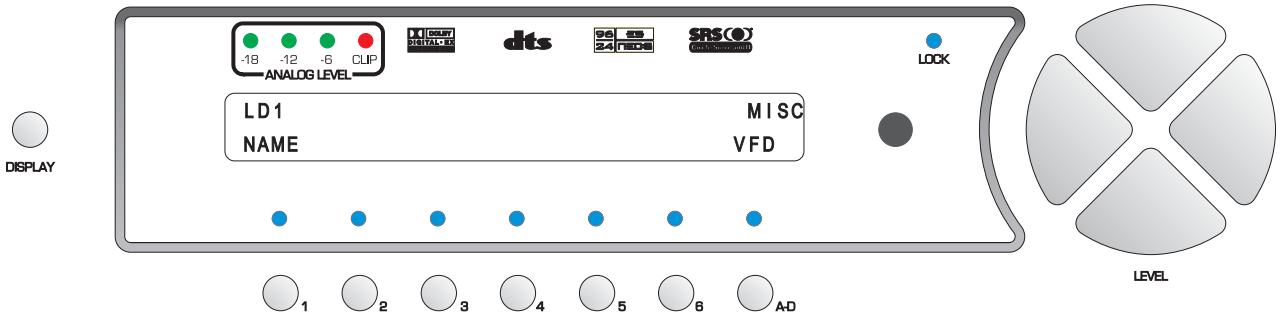


Figure 56 - Front Panel Display of the SETUP/INP *page 3*/MISC Submenu

Naming the Current Input Select button

This parameter sets the name (VFD and OSD) for the currently selected input. Select the input to rename. The letters **VFD** will be displayed in the lower right above the **A-D** button, indicating that the name in the VFD is to be edited. VFD names are limited to 4 characters. Press the **LEVEL UP/DOWN** button to change characters and the **LEVEL LEFT/RIGHT** to change character positions. Pressing the **DISPLAY** button once will clear the current **INPUT SELECT** name. Press the **A-D** button to edit the OSD name, if a video board is installed. **OSD** will appear in the lower right corner of the VFD. This name can be up to 15 characters and the current character to be edited will blink on screen. OSD names can only be edited on a monitor.

Press **SETUP** once to return to the **SETUP/INP *page 3*** submenu.

Master Delay

With video processing, there can be a delay in the output of the video signal, causing the audio and video to be out of sync. The Casablanca III allows the user to set an overall, or master, audio delay in order to re-sync the audio and the video signals. In the **SETUP/INP *page 3*** submenu, press button **# 2** and use the **LEVEL UP/DOWN** buttons to adjust the audio delay time until the video appears to be in sync with the audio. The range is **0** to **100** mS at 48KHz.

When complete, press **SETUP** twice to return to the **INPUT SELECT** menu.

Password for Each INPUT SELECT Button

Press **SETUP/INP/A-D/A-D** and button **# 3** to set a password for the currently selected input. Entering a password here will prompt the user to type in the password each time he/she wishes to change configuration settings for this **INPUT SELECT**.

When the **PW** button is pressed, "**ARE YOU SURE YOU WANT TO ENTER A PASSWORD FOR THIS MENU?**" appears on the VFD. Pressing **NO** (button **# 6**) reverts back to the **SETUP/INP *Page 3*** submenu. Pressing **YES** (**A-D** button) will display a menu allowing the user to enter a password. Use buttons **1**-**6** to enter a 5 digit password. A zero in any position of the password will be seen as all zeros, or no password.

Note: **PLEASE REMEMBER and/or WRITE DOWN YOUR PASSWORD!** If it is forgotten, all access to password protected areas will be denied! Please refer to page 16 for additional information on using passwords.

Center Spread

This is a post process activated in the **POST PROCESS** submenu. The range (**0**-**15**) is set in this **SETUP**/**INP** page 3 submenu. This parameter adjusts the mix between the center speaker and the front left/right speakers. The higher the value, the more center channel level is reduced in the center speaker and added into the front left/right speakers. If the value is 15, all of the center channel information would be routed to the front left/right speakers. In this case, it would be the same as phantoming the center speaker.

Six Shooter

The Six Shooter is an external preamp/analog switcher that allows the 6 analog output channels of an SACD or DVDA player to integrate with the Casablanca III. There are 3 inputs and one output on the Six Shooter. The first two inputs are designed to receive 6 channels of analog SACD or DVDA signal. The third input receives the first 6 output channels from the Casablanca III (L/R/C/LS/RS/S1). The output of the Six Shooter is connected to the amplifier inputs.

The first two inputs of the Six Shooter contain high-quality analog volume controls. The volume for these two inputs is controlled by the Casablanca III. Volume for the third input (first 6 channels of the Casablanca III) is done in the Casablanca.

To install the Six Shooter, select the appropriate **INPUT SELECT** button on the Casablanca III, then press **SETUP\INP\A-D\A-D\6**. Using the **LEVEL UP\DOWN** buttons, select the correct Six Shooter input for this INPUT SELECT button. When the Six Shooter is installed, each **INPUT SELECT** button must have a value of either **1** (Input #1 of the Six Shooter), **2** (Input #2 of the Six Shooter), or **3** (Casablanca III pass-through for all signals processed by the Casablanca III).

1 will route the Six Shooter's # 1 source to the amplifiers.
2 will route the Six Shooter's # 2 source to the amplifiers.
3 will route the Casablanca III directly to the amplifiers.

Next, for each Input Select button set to either **1** or **2**, go to the Audio Source menu (**SET-UP/INP/A-D/SOURCE**) and set all 6 jacks to **OFF**.

Press **SET-UP** 3 times to return to the **INPUT SELECT** menu.

Please refer to Appendix B for a Six Shooter wiring diagram.

Setup Global

This function provides access to a series of submenus that will allow the configuration of the entire system (not by input).

Press **SETUP**, then **GLOBAL** (button **# 2**). The first page of the Global submenu is displayed, as shown in figure 57.

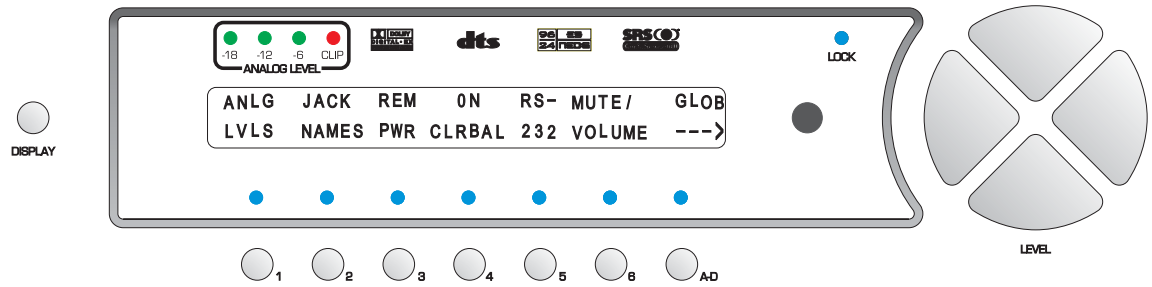


Figure 57 - Front Panel Display of the SETUP/GLOBAL *page 1*/ Submenu

Analog Input Levels

From the **SETUP/GLOBAL *page* 1** menu, press button **# 1** to bring up a submenu that allows adjustment of the analog input levels. This submenu is shown in figure 58.

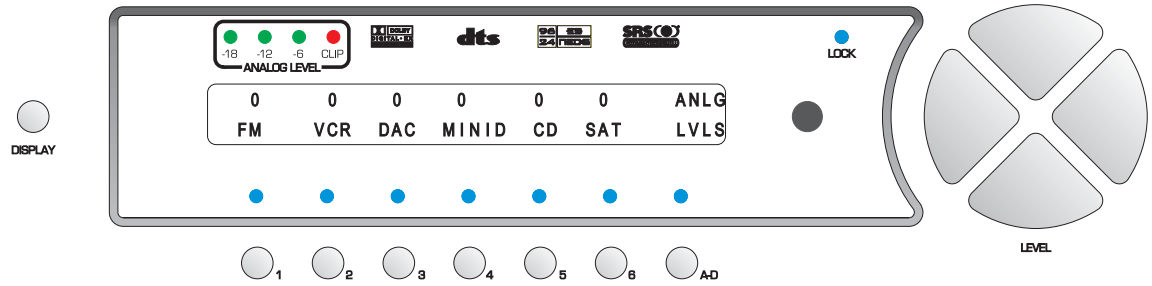


Figure 58 - Front Panel Display of the SETUP/GLOBAL/ANLG LVLS Submenu

This function allows the user to adjust the relative **ANALOG** input **LEVEL** for each input source, for those modes which require analog to digital conversion. The allowable relative range is +19 to -14dB in 1dB increments, then steps to -16, -18 and -22dB.

Note: To obtain the best performance from the analog to digital conversion process, levels should be set so that the loudest passages from the source material cause the **-18**, **-12** and **-6** dB **ANALOG** input **LEVEL** LEDs on the front panel to light. Setting the input level too high will cause all four LEDs to light, thus clipping the input signal and causing distortion.

Analog output levels may vary considerably for different input sources, but program material from a given input source should be more relatively consistent. Therefore the **ANALOG** input **LEVEL** for a given source should not have to be adjusted very often. If the **ANALOG LEVEL** LEDs are not lit during the loudest passages from an analog source, the user could increase the **ANALOG** input **LEVEL** for that source in order to ensure a good signal to noise ratio. Another way to do this is in the 2nd Balance menu, however it is temporary. If that particular source were recorded at a particularly high or low level, the analog input level can be temporarily adjusted in the 2nd **BALANCE** menu

Select the analog input to be adjusted by pressing buttons **1**-**6**. Adjust the relative input level using the **LEVEL UP**/**DOWN** buttons, then press the **SETUP** button three times to return to the current **INPUT SELECT** page.

Jack Names

From the first **GLOBAL** page, button **# 2** accesses a series of submenus, which allow the user to name the Casablanca III's input jacks, both audio and video. The **JACK NAMES** submenu is shown in figure 59.

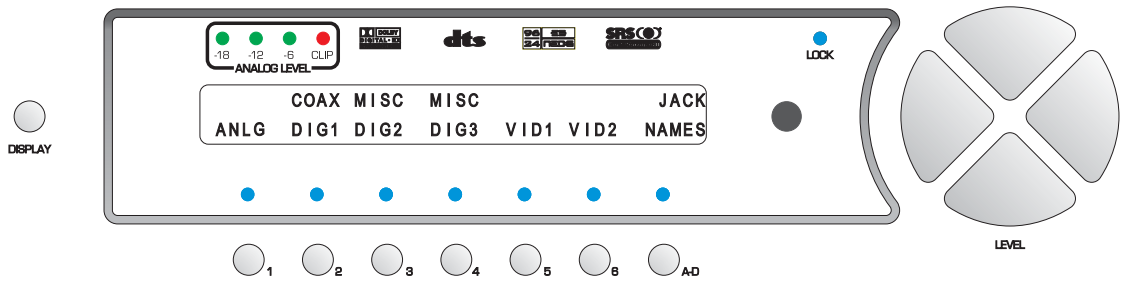


Figure 59 - Front Panel Display of the SETUP/GLOBAL/JACK NAMES Submenu

Pressing button **# 1** accesses a submenu for naming the analog audio input jacks. Button **# 2** does the same for the coaxial digital audio input jacks, whereas buttons **# 3** and **4** allow the user to name all non-coaxial digital audio input jacks. Buttons **# 5** and **6** lead to submenus for naming the video jacks. The composite, S and multi-format video jacks are linked for mapping, and subsequently for naming them. In other words, where **COMPOSITE 1** video jack is mapped, so are the **S-VIDEO 1** and **Multi Format 1** jack, where **COMPOSITE 2** video jack is mapped, so are the **S-VIDEO 2** and **Multi Format 2** input jacks, and so on. Since the **COMPOSITE 1** input jack cannot be mapped differently than the **S-VIDEO 1** or **Multi Format 1** input jacks, they also share the same jack name.

Example of editing a jack name:

To edit the name of analog input jack 1, press button **# 1** from the menu shown above. This displays the **NAME ANALOG** submenu. Then press button **# 1** (first analog input jack). Press the **LEVEL UP/DOWN** buttons to select the VFD character, then the **LEVEL LEFT/RIGHT** to change character positions. Once selected, pressing the **DISPLAY** button once will clear the current jack name. The character being edited will blink or will have a cursor below it. The VFD name for audio input jacks can be up to 6 characters and the video jack names up to 5. Press the **A-D** button to edit the OSD name. **OSD** will be displayed above the **A-D** button in the VFD. OSD editing can only be done on the display device. OSD jack names can be up to 15 characters and the current character position being edited will blink.

Remote Power Jacks

The **REMOTE POWER** jack and three **MAIN POWER** jacks on the rear panel output 12V jacks can be programmed to, output either continuous **DC** or a **PULSE**. This feature is used to automatically activate/deactivate other system components such as power amplifiers, etc, when the Casablanca III is taken in/out of Standby. From the first **SETUP/GLOBAL** page, press button **# 3** to access the **REMPWR** submenu shown in figure 60.

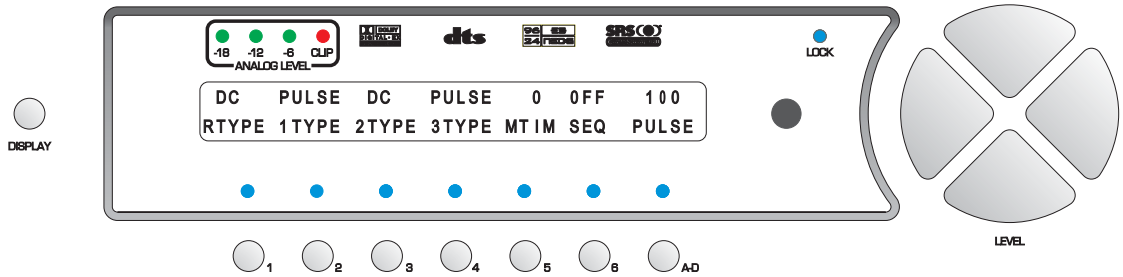


Figure 60 - Front Panel Display of the SETUP/GLOBAL/REMPWR Submenu

The first four 3.5 mm jacks on the rear panel (remote power and main power 1 through 3) are +12V pulse or DC current limiting* outputs (tip = hot, sleeve = ground) intended to be connected to devices which feature 12V control voltage inputs.

The first jack labeled "REMOTE", is controlled by pressing **REMOTE** on the hand held remote or front panel. It will turn off when the Casablanca III is put into standby mode.

Use button **# 1** to indicate whether the output of the **REMOTE** power jack should be 12VDC (**DC**) or a 12V pulse

(**PULSE**). The specification sheet for the device being triggered should contain information as to which type of signal it requires.

The output signal of the remote power jack does not need to be delayed since its activation is by the user via either the hand held remote or front panel **REMOTE** button.

Use buttons **2**, **3** and **4** to set the output (**DC** or **PULSE**) for each of the three **MAIN POWER** jacks on the rear panel.

The **MAIN POWER 1** jack is activated immediately upon exiting the standby mode (pressing the front panel or the hand held remote **POWER** button), the **MAIN POWER 2** jack is activated *X* seconds after exiting standby and the **MAIN POWER 3** jack is activated *X* times 2 seconds after exiting standby. *X* represents the time, in seconds, that is set by pressing button **# 5** – **MTIM**, or Main [Delay] Time. This is useful for sequencing the activation of high power components such as amplifiers. When the Casablanca III is put into standby, it can be set to turn off the **MAIN POWER** jacks simultaneously or sequenced in the opposite order they were activated. Sequencing is accomplished by setting **SEQ** (button **# 6**) to **ON**. The default is **OFF**, which will turn off all triggers simultaneously when the Casablanca III is put into standby.

If the **TYPE** for any rear panel power jack is set to **PULSE**, the duration (in milliseconds) of this pulse can be set by the user. Select the **A-D** button and use the **LEVEL UP**/**DOWN** buttons to change the pulse duration.

*The current limiting resistor is 33 ohms, 0. 5W. This means that the more current a triggered device draws, the more the output voltage gets reduced. The formula is: Output voltage =12 – (I x 33), where I = the current draw from the triggered device, in Amperes. Refer to the device's manual for this information. The Casablanca III's maximum output current is 100mA. Using the above formula, with a 100mA draw, the output voltage will be 8.7 volts. Most triggered circuits have virtually no current draw.

Clear Balance (Temporary Settings Control)

Any changes in the **BALANCE** menus are, by default, temporary. When a different **INPUT SELECT** button is pressed or the Casablanca III is put into standby, all changes will be reset to zero. This feature can be overridden by pressing button **# 4** in the first **SETUP**/**GLOBAL** page (figure 57 on page 75) and set to **OFF**. When this parameter is set to **OFF**, all **BALANCE** menu settings will remain as the user changes inputs or puts the Casablanca III into standby.

RS232

In the first **SETUP**/**GLOBAL** page, press button **# 5** to access the **RS232** submenu shown in figure 61.

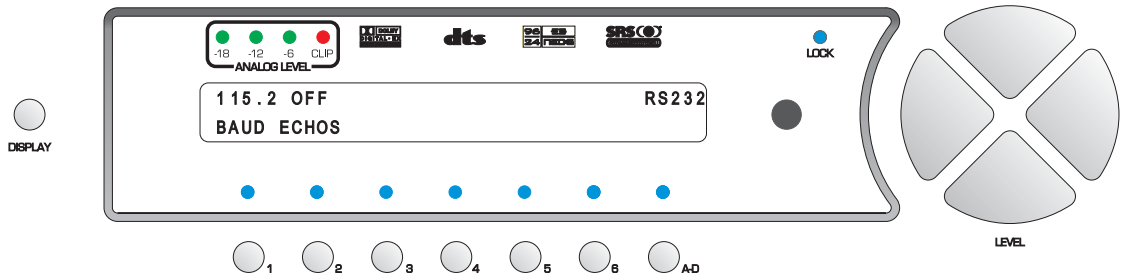


Figure 61 - Front Panel Display of the SETUP/GLOBAL/RS232 Submenu

Press button **# 1** (**BAUD**) and use the **LEVEL UP**/**DOWN** buttons to select the Baud rate that matches that of the RS232 controller. The factory default value is 115.2K

The Casablanca III can be set to automatically feedback to the RS232 port. Button **# 2** (**ECHOS**) [Echo Status] allows the user to enable or disable the output of data to the RS232 port and, if enabled, determine which level, or pre-determined group of bytes, it outputs. This can be done by selecting a "Status Level", which means if any Casablanca III parameter changes, that level's bytes will be sent to the port. This is useful for monitoring master level, input and the like when the user has access to both the Casablanca III and the touch-panel controller, to keep them synchronized. If this value is **OFF**, no parameter change information will output to the RS232 port.

Status levels 1, 2, 3 and 4 permit increasing levels of data to be sent to the RS232 port. If RS232 is not being used, ensure that the Echo Status (**ECHOS**) parameter is set to **OFF**. Higher settings can slow the operation of the Casablanca III.

An RS232 Protocol addendum which describes all pertinent RS232 information, including values contained within each Status Level is available for download from the Theta Digital website, in the "Library" section. (www.thetadigital.com)

Mute/Volume

This submenu provides the user with a method of setting volume and mute control parameters. Press **SETUP**, **GLOBAL**, then button **# 6** (**MUTE/VOLUME**). This submenu is shown in figure 62.

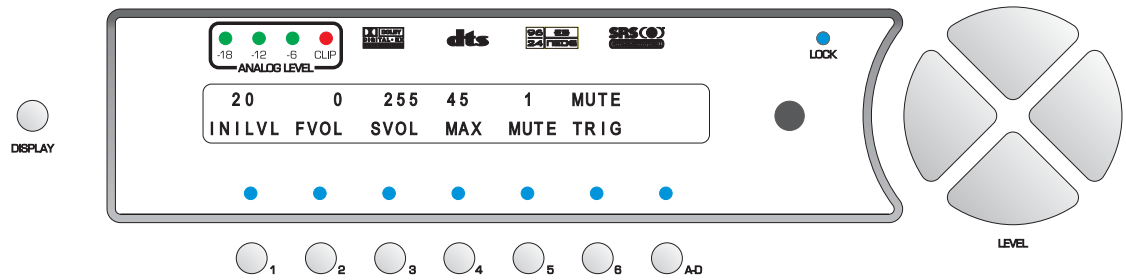


Figure 62 - Front Panel Display of the SETUP/GLOBAL/MUTE-VOLUME Submenu

Initial Power-On Master Volume

Button **# 1** (**INILVL**, or Initial Level) allows the user to store the initial master volume setting that the Casablanca III defaults to out of standby.

FVOL and SVOL

When certain parameters are edited or the master volume changed, holding the **LEVEL UP/DOWN** button for more than 5 steps will, by default, speed up the rate at which the value changes. This is referred to as *Fast Mode*. It is possible to delay the speed of the *Fast Mode* to the user's preference. On **FVOL** (Fast Volume – button **# 2**) a delay of **0** (0 milliseconds between steps) will set the Fast Mode to be its quickest, and a delay of **255** (255 milliseconds between steps) sets it to be its slowest.

The response rate of the **LEVEL UP/DOWN** buttons during the first 5 steps is referred to as *Slow Mode*. Button **# 3** - **SVOL** allows the user to modify the speed of increment changes during these first 5 steps. In **SVOL** (Slow Volume) a delay of **0** will set the Slow Mode to be its quickest, a delay of **255** sets it to be its slowest.

Maximum Overall Level

Button **# 4** (**MAX**) allows the user to set a maximum master volume level. This is especially useful in a household where young relentless children and smart pets have access to the system or the speakers are very efficient.

Changing the Default MUTE Level

The user can set the master volume level that the Casablanca III goes to when the front panel or hand-held remote **MUTE** button is pressed. Editing this parameter is accessed by pressing button **# 5**.

MUTE Off Trigger

The Casablanca III can be un-muted in 2 ways. Setting the parameter (accessed via button **# 6**) to **MUTE** allows only the **MUTE** button to un-mute the Casablanca III. Setting this parameter to **M+V** (**MUTE** and **VOLUME**) allows both the **MUTE** and **LEVEL UP/DOWN** buttons to un-mute.

Press the **SETUP** button once to return to the **SETUP/GLOBAL** *page 1* submenu. Press the **A-D** button once to go to the second **GLOBAL** page, shown in figure 63.

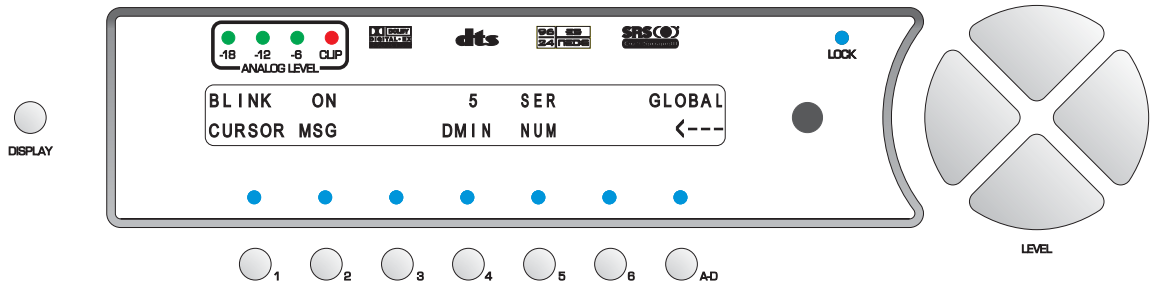


Figure 63 - Front Panel Display of the SETUP/GLOBAL *page 2* Submenu

Cursor Type

When editing jack or input select names, the VFD character being edited can be indicated by blinking, a flashing cursor below it, both, or no indication. This preference is set in the **SETUP**/**GLOBAL** *page 2* submenu, button **# 1**.

Displaying Mode Change Messages

When the Casablanca III receives a Dolby Digital or DTS signal on the currently selected input and the **MODE** is not the one required to process these signal formats, a message will briefly appear on the VFD and OSD stating that the Casablanca III has received a certain format and is temporarily changing the **MODE**. This message does NOT come up by default but can be turned on by pressing button **# 2** and changing the value to **ON**.

Note: If the default **MODE** is **DOLBY DIGITAL** or **DTS** and a 96K signal is received, the Casablanca III will momentarily display a message (if the **MSG** parameter is set to **ON**) indicating that it is receiving a 96K signal and [temporarily] changing the current mode to **STEREO**. Neither Dolby Digital or DTS can process a standard 96K signal, therefore the **MODE** is changed to **STEREO** in order to have audio output. The user can change this mode, after it has been changed to **STEREO**, by using the **MODE** button to select a different and applicable **MODE**.

Display Time

The Casablanca III's display brightness will automatically dim to ¼ if no button has been pressed for *X* time. *X* is the value, in minutes, from the **DTIM** (Display Time) parameter under button **# 4** of the 2nd Global menu page.

Serial Number

Press button **# 5** to display the serial number.

* * *

When all settings are complete in this submenu, press **SET-UP** twice to return to the **INPUT SELECT** menu.

Macros

The Casablanca III contains several useful macros that allow the user to perform multiple tasks at the press of a button. To enter the Macros submenu, press **SETUP**, then **MACROS** (button **# 3**). The Macros submenu appears, as shown in figure 64.

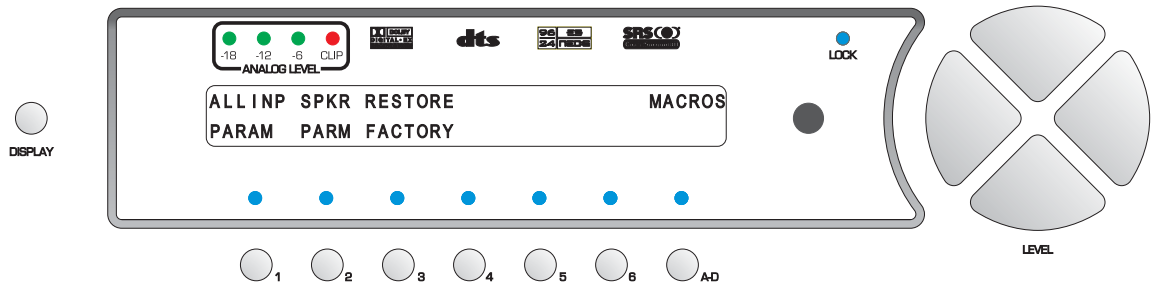


Figure 64 - Front Panel Display of the SETUP/MACROS Submenu

Copy Macros

Buttons **1** and **2** are "copy" macros. **ALLINP** (button **# 1**) allows the user to copy all **INPUT SELECT** parameters from the currently selected input to one or all input select buttons. To copy to a specific input select button, the Casablanca III will prompt the user to select the **INPUT SELECT** button to copy to. If the currently selected **INPUT** parameters are to be copied to input select buttons **7-12**, press the **A-D** button when given the choice of the destination **INPUT SELECT** button to be copied to.

If a password protected **INPUT SELECT** is being copied to, the user will be prompted to enter that password.

Note: When copying all **INPUT** parameters to other **INPUT SELECT** buttons, the **SOURCE** (audio and video) settings will not be copied.

Typically when setting up the Casablanca III in the system for the first time, speaker configuration settings established for the first **INPUT SELECT** button will be virtually the same for all other **INPUT SELECT** buttons. This macro allows only the speaker configuration, levels and delays to be copied to one or all **INPUT SELECT** buttons.

Restore Macros

Button **# 3** allows the user to restore the factory settings in a variety of ways. The Restore menu is shown in figure 65.

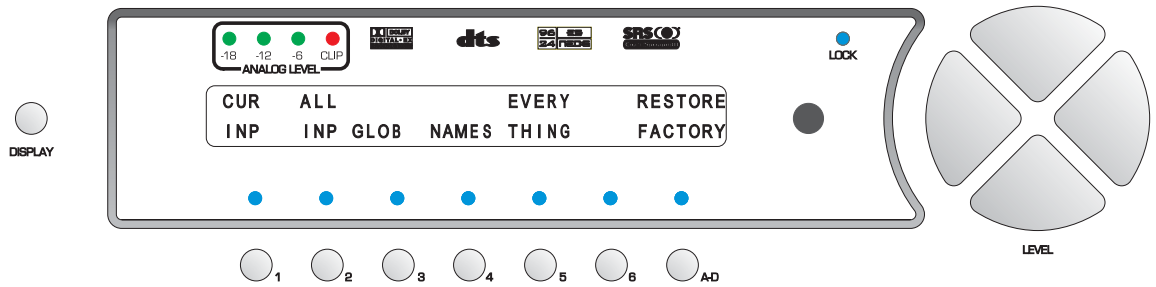


Figure 65 - Front Panel Display of the SETUP/MACROS/RESTORE FACTORY Submenu

In this submenu, button **# 1** allows the user to restore factory **INPUT** parameters to the currently selected input button. The input name will not be changed.

Button **# 2** will restore factory **INPUT** parameters to all 12 **INPUT SELECT** buttons. Input select names will not be changed.

Button **# 3** will restore all factory **GLOBAL** menu settings.

Button **# 4** will restore all factory **NAMES**. This includes jack names and **INPUT SELECT** button names.

Button **# 5** will restore all factory settings, **INPUT**, **GLOBAL** and **NAMES** to the Casablanca III.

Before any macro is executed the user will be asked “Are you sure you want to perform this macro?”. Press **YES** (**A-D** button) or **NO** button **# 6**). The Casablanca III will prompt “Complete”. Press **OK** (**A-D** button) to return to the Macros menu.

Note: If restoring factory defaults to an **INPUT SELECT** button that is password protected, the Casablanca III will ask for the password by input name.

Press **SETUP** twice to return to the first page of the **SETUP** menu.

BALANCE Function

This function allows the user to temporarily* set the **FRONT**/**REAR** and **LEFT**/**RIGHT** balances, the center and subwoofer speaker levels, the shelf **EQ**, and a relative adjustment of the analog input level, in order to compensate for distinct program material characteristics.

*The parameter values in the two **BALANCE** pages are, by default, temporary. When the user presses a different **INPUT SELECT** button or puts the Casablanca III into standby, changes made will revert to **0**. This feature has an override, (**CLRBAL**), which is accessed via the **SETUP/GLOBAL** submenu, button **# 4**.

The first page of the balance menu is shown in figure 66 and the second in figure 67.

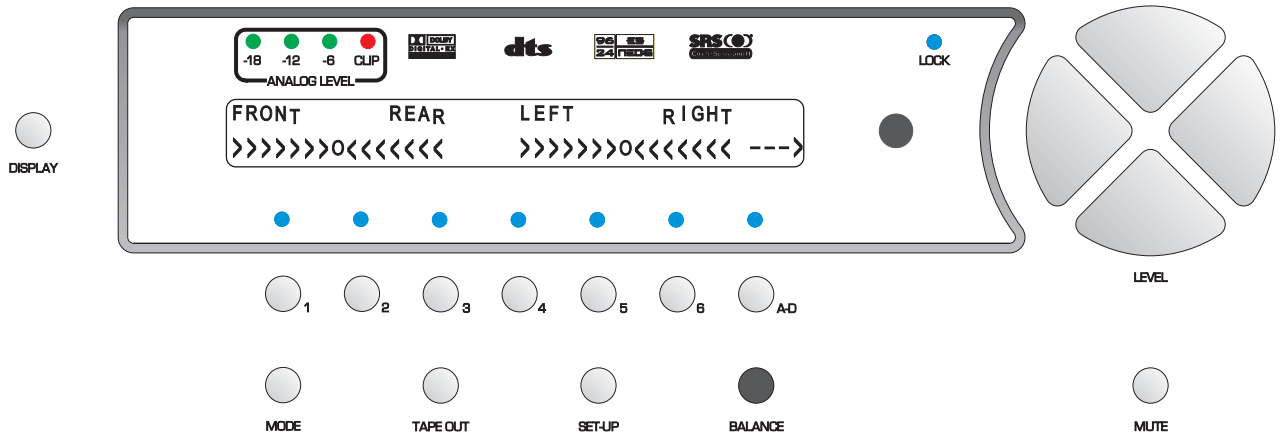


Figure 66 - Front Panel Display of the BALANCE *Page 1* Menu

Front/Rear and Left/Right Balance

The **BALANCE** adjustments are made with reference to the relative speaker trim levels that are stored in the **SETUP**/**INP**/**LVLS** submenu. **LEVEL LEFT**/**RIGHT** adjusts the Left/Right balance and **LEVEL UP**/**DOWN** adjusts the Front/Rear balance.

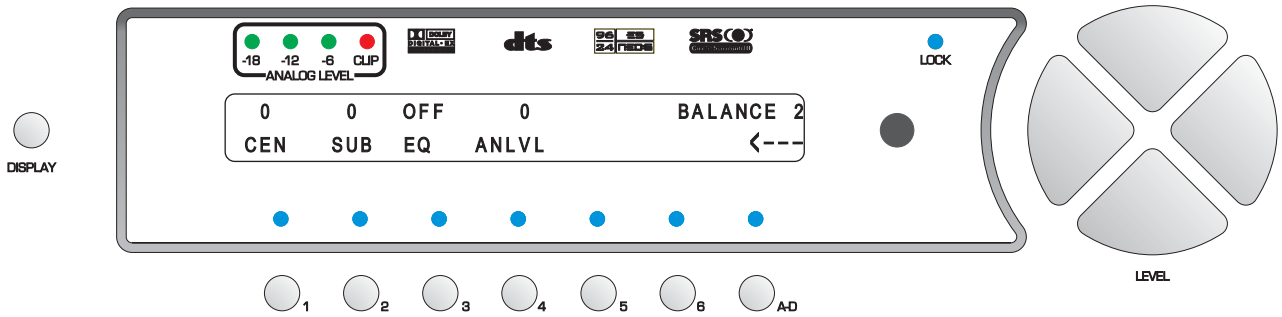


Figure 67 - Front Panel Display of the BALANCE *Page 2* Menu

Pressing the **A-D** button once will reveal the second **BALANCE** page, which will allow temporary level changes to the center (**CEN**) speaker, subwoofer (**SUB**), **EQ** and analog input level (**ANLVL**).

Center and Sub Balance

Press button **# 1** to adjust the center level and button **# 2** to adjust the subwoofer level.

Shelf EQ

Pressing button **# 3** will allow the user to adjust the **EQ** setting to **OFF**, **1**, **2**, **3** or **4**. This is a low pass shelf EQ that, at 2KHz, drops by 1.5dB when the parameter value is set at **1**, 3dB when set at **2**, 6dB when set at **3**, and 9dB when set at **4**. The **EQ** is active in all modes and is designed to roll off excessive brightness in different

program material.

Analog Input Level Override

Button **# 4** lets the user adjust the analog input level of the currently selected input, relative to the stored value in the **SETUP**/**GLOBAL**/**ANLG LVLS** (analog levels) menu.

Press the **BALANCE** button twice to return to the current **INPUT SELECT** menu.

STATUS Function

This feature, accessible from the hand held remote or RS232 control device, provides the user with a 'quick view' of the most pertinent current settings of the Casablanca III. It is available from any menu or submenu by pressing the **STATUS** button. While viewing the Status pages, the **INPUT SELECT** buttons (**1** - **6**) are inactive. Pressing a function button will clear the **STATUS** display and show the current function menu.

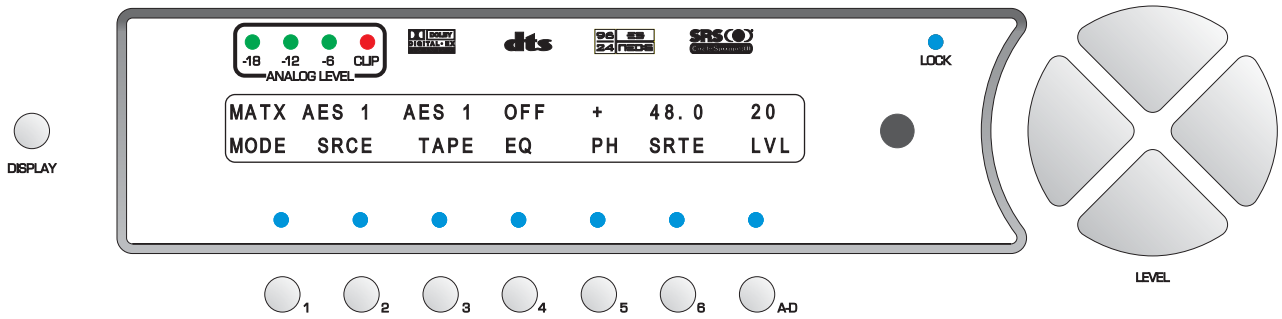


Figure 68 - Front Panel Display of the STATUS Display

When the **STATUS** display is activated, the following will always appear in the VFD, as shown in figure 68.

- The current **MODE** (Default or temporary).
- The currently selected input jack name (**SRCE**, or Source).
- The analog **TAPE OUT** audio source to be recorded, by Input jack name.
- The **EQ** parameter value of **OFF**, **1**, **2**, **3**, or **4**. (Stored or temporary).
- The **PHASE** parameter value of **+** (0°) or **-** (180°).
- The Sample Rate (**SRTE**) of the signal currently being received.
- The Master Volume (**LVL**) setting.

The information displayed in the OSD may be different, as determined in the **SETUP/INPUT** *page 1*/**OSD**/**STATUS** setup menu

Press the **A-D** button once to display the Dolby Digital Status page, an example of which is shown in figure 69.

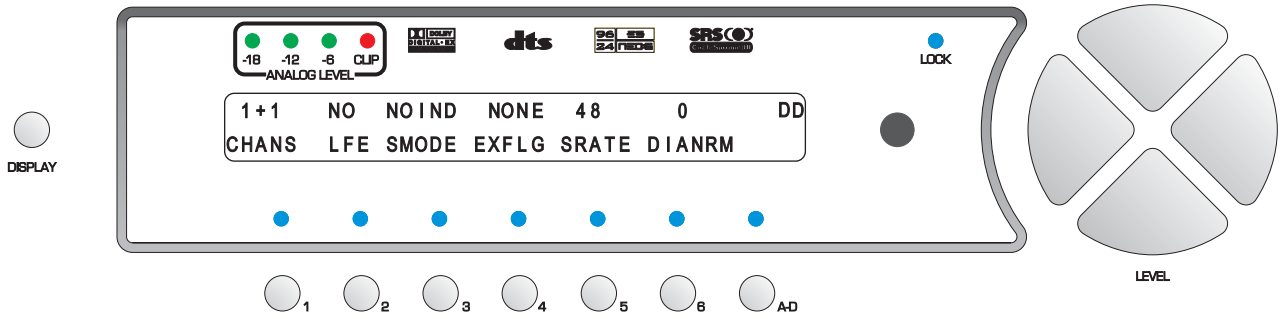


Figure 69 - Front Panel Display of the STATUS/Dolby Digital Display

The Dolby Digital status displays information that may be embedded in the Dolby Digital datastream. The information can be correct only if a Dolby Digital source is active. Each parameter on the first page is described below:

Channels (**CHANS**): Displays the number of main channels in the source signal.

LFE: Displays whether an LFE track is present or not.

Surround Mode (**SMODE**): Displays the surround mode. See **SETUP/INP *Page 2*/DOLBY DIGTL *Page 1***, parameter value of **2CHEN** and **2CHNEN** for Casablanca III's use of this parameter. This can be found on

page 66.

Dolby Digital EX Flag (**EXFLG**): Displays whether or not there is a flag in the incoming Dolby Digital signal, indicating whether the signal is EX encoded or not.

Sample Rate (**SRATE**): Displays the sample rate.

Dialog Norm (**DIANRM**): Dialog normalization value. See the Setup Dolby Digital Dialog Normalization on page 66 for Casablanca III's use of this parameter.

Press the **A-D** button once more to display the DTS Status page, an example of which is shown in figure 70.

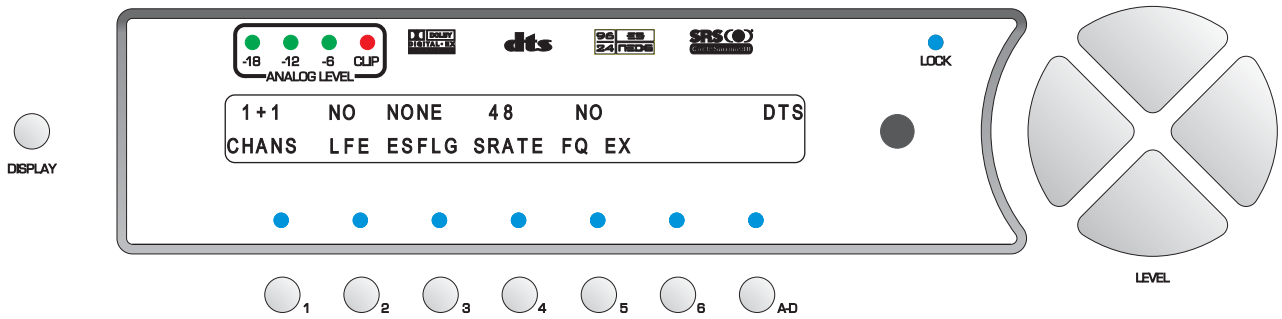


Figure 70 - Front Panel Display of the STATUS/DTS Display

Each parameter on the DTS Status page is described below:

Channels (**CHANS**): Displays the number of main channels in the source signal.

LFE: Displays whether an LFE track is present or not.

DTS ES Flag (**ESFLG**): Displays whether or not there is a flag in the incoming DTS signal, indicating whether the signal is ES encoded or not.

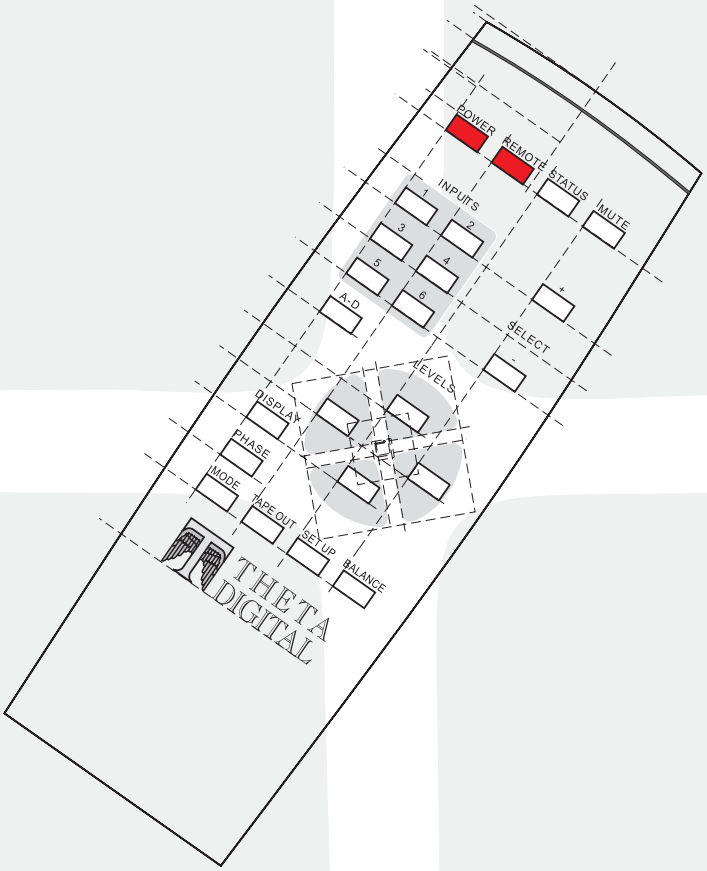
Sample Rate (**SRATE**): Displays the sample rate.

Frequency Extension (FQ EX): Indicates whether the 96K signal is native or doubled.

Continuously pressing the A-D button will cycle between the 3 Status pages.

Press the **STATUS** button once to exit the Status pages.

REMOTE CONTROL



Remote Control Layout

1. **POWER.** After the rear panel **MAIN POWER** switch is turned on, press this button to exit the standby mode. Pressing **POWER** again will place the Casablanca III into standby mode, turning off the VFD and muting all audio outputs.
2. **REMOTE.** Activates/deactivates the **REMOTE POWER** jack on the rear panel.
3. **MUTE.** Mutes all analog audio outputs except the **TAPE OUT** jacks. Press again to disable muting.
4. **STATUS.** Displays the current status of the Casablanca III on the VFD, and on the video monitor if optional video card is installed and video display is enabled.
5. **INPUTS.** Individual buttons which select the desired input. Within a function's submenu page(s), these buttons select sub functions to edit. When pressed, the corresponding LED on the front panel is activated; as well as an arrow on the video monitor.
6. **A-D.** Sequences through input jacks assigned (mapped) to the active **INPUT SELECT** button. Also toggles between menu pages.
7. **SELECT +** and **-.** Incrementally changes the active **INPUT SELECT BUTTON**.
8. **LEVELS UP** and **DOWN.** Adjusts master volume for all speaker outputs. Also increments/decrements parameter values in most edit modes and shifts **FRONT**/**REAR** audio in the first **BALANCE** menu.
9. **LEVELS LEFT** and **RIGHT.** Shifts the audio balance to the left or right in the first **BALANCE** page; used to adjust the **MASTER** volume level when in most submenus; used to change **INPUT SELECT** pages.
10. **DISPLAY.** Temporarily overrides the VFD display brightness level.
11. **PHASE.** Inverts the phase (0/180°) of all speaker outputs.
12. **MODE.** Activates/deactivates the **MODE** select pages for currently selected input.

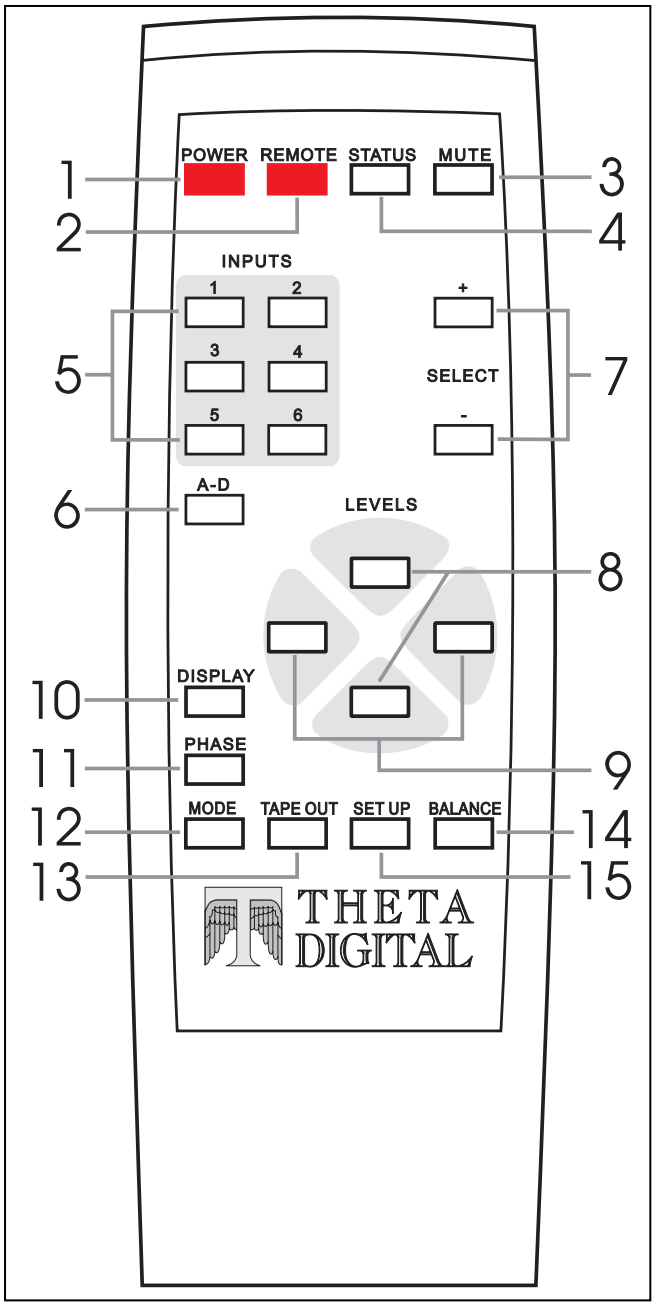


Figure 71 - Remote Control Layout

13. **TAPE OUT.** Used to route audio and video signals to the **TAPE OUT** jacks.
14. **BALANCE.** Activates the **BALANCE** menus allowing a temporary balance configuration to be set in order to adjust for different program characteristics.
15. **SETUP.** Accesses submenus for setting speaker configurations/levels/delays, analog input levels, naming inputs, setting the display & remote features, selecting the video type, setting options for incoming Dolby Digital, DTS and Circle Surround signals and much more.

Note: When operating the hand-held remote control, point it at the remote sensor on the Casablanca III's front panel. The remote control can be used 3 to 20 feet from the Casablanca III within 30° of each side of the sensor. Exposing the remote sensor to direct sunlight or strong light may cause faulty operation.

REMOTE CONTROL OPERATIONS

This section describes the functionality of the Casablanca III using the hand-held remote only. For front panel functional descriptions, please refer to *FRONT PANEL OPERATIONS* on page 42. *Introduction to the User Interface* section on page 16 will also be helpful. Descriptions for remote buttons/functionality not covered in this section can be found in *REMOTE CONTROL LAYOUT* on page 87. Features and functional descriptions which are common to both front panel and remote operations are covered in the *FRONT PANEL* section and therefore not repeated in this section.

Important Note: There is no OSD (On-Screen Display) when using the 15-pin Multi Format video output jack. OSD is only available when using the Composite and/or S-Video outputs on any video board. If a video board installed, there will be OSD.

Input Select Menus

When the rear panel **MAIN POWER** switch is turned on, the Casablanca III identifies internal hardware and software, then enters standby mode (the **POWER** LED turns on). Pressing the **POWER** button once will result in the video monitor displaying a start-up routine, and then the last accessed **INPUT SELECT** menu for *x* seconds, where *x* represents the time parameter value stored in the **SETUP**/**INPUT** *page 1*/**OSD** submenu, **TIME** parameter. Figure 72 shows an example of this menu.

Changing Inputs and Input Select Pages

Press buttons **1** through **6** or **SELECT UP/DOWN** to choose a desired **INPUT SELECT** button. An arrow will point to the currently selected input. The input names shown in this figure are for example only and will most likely differ from the user's set up. There are two **INPUT SELECT** pages, giving the user a total of **12 INPUT SELECT BUTTONS** to choose from. Press the **LEVEL RIGHT** button to select the **INPUT SELECT 2** menu. Press the **LEVEL LEFT** button to select the **INPUT SELECT 1** menu.

```
INPUT SELECT PAGE 1

→ 1 LASERDISC 1
  2 CD TRANSPORT
  3 DVD TRANSPORT
  4 VCR 1
  5 SATELLITE
  6 TAPE
LEVEL: 20
SOURCE: RF 1
MODE: DOLBY DIGITAL
```

Pressing the **LEVEL UP/DOWN** buttons will adjust the master volume for all speakers. This value ranges from **0** to **73** (relative maximum) and will be shown as a horizontal bar graph on the video monitor for approximately 1 second after the button is released.

Figure 72 - Video Display of the INPUT SELECT *Page 1* Menu

Selecting Mapped Input Jacks for the Currently Selected Input

Pressing the **A-D** button will toggle between the input jacks mapped to this **INPUT SELECT** button. Please refer to page 44 (*Search Order*) for important, detailed information regarding input mapping options.

Mute

The **MUTE** button will toggle the audio between the master volume level and **MUTE** level in all speakers each time it is pressed. Please refer to pages 42 and 78 (Default mute level/mute off trigger) for additional information on the **MUTE** feature. The **MUTE** feature is active in all menus.

Display

The **DISPLAY** button will toggle the VFD brightness between **OFF** ¼, ½, ¾ and **FULL** brightness. This feature will have no effect on the video display. When the VFD is turned **OFF**, the red logo LEDs also turn off.

Global Phase

Repeatedly pressing the **PHASE** button toggles the main audio outputs' phase between **0** and **180** degrees, and displays this on the monitor for approximately 1 second after being released. The **PHASE** parameter is only accessible from the remote.

STATUS Display

This display, accessible from the hand held remote and viewed on both the video monitor display and VFD, provides the user with a 'quick view' of the most pertinent current settings of the Casablanca III as well as information about a Dolby Digital source. The status page is available from any menu or submenu simply by pressing the **STATUS** button.

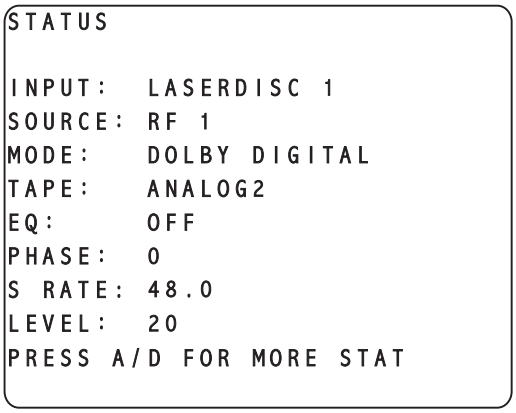


Figure 73 - Video Display of the STATUS Display

When the **STATUS** display is activated, its title is displayed in the upper left corner along with the following:

- The current **INPUT SELECT BUTTON NAME**.
- The current mapped input jack.
- The **MODE**.
- The **TAPE OUT** audio source.
- The shelf **EQ** parameter value (**OFF**, **1**, **2**, **3**, or **4)**.
- The **PHASE** parameter value (**0**° or **180**°)
- The Sample rate (**S RATE**) of the currently selected source.
- The **MASTER VOLUME** level.

Press the **A-D** button once to display the status of the current Dolby Digital source. Press **A-D** once more to display the status of the current DTS source. These pages are shown in figures 74 and 75.

Note that a Dolby Digital or DTS source needs to be playing in order to display the correct values on these status pages.

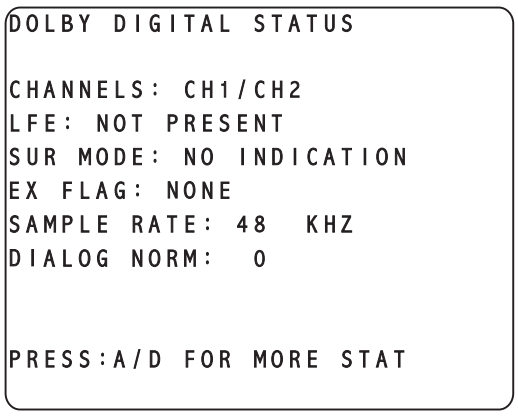


Figure 74 - Video Display of the Dolby Digital Status Page

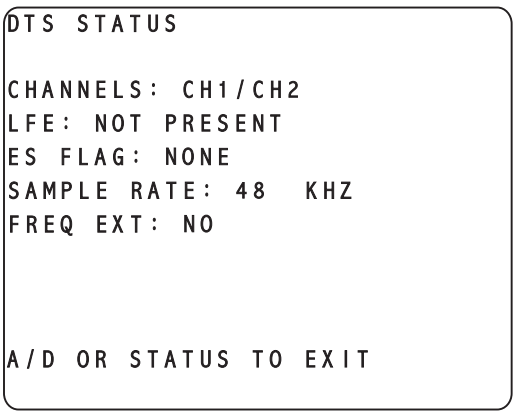


Figure 75 - Video Display of the DTS Status Page

Please refer to page 84 for additional information pertaining to Dolby Digital and DTS Status menus.

Pressing the **STATUS** button once will clear the status display. Pressing a function button will clear the status display and show that menu.

MODE Function

This function allows the user to audition **MODE**s for the currently selected input. Storing a default **MODE** is done in the **SETUP/INPUT** *page 1* submenu.

Pressing the **MODE** button once displays the first page of the **MODE** menu. This page consists of 6 different signal processing modes, one of which can be selected and temporarily applied to the current input.

An arrow will point to the currently active mode. As indicated by the on screen instructions at the bottom of the monitor, pressing the **A-D** button once will reveal a second page consisting of 6 additional modes, and press **A-D** once more for the page with additional modes.

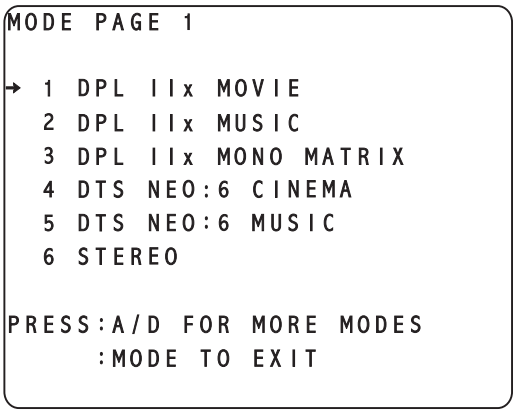


Figure 77 - Video Display of the MODE *Page 1* Menu

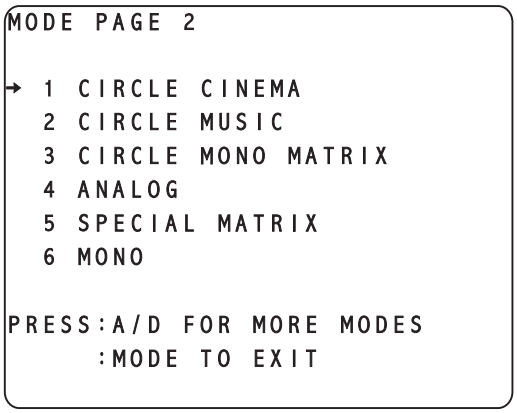


Figure 78 - Video Display of the MODE *Page 2* Menu

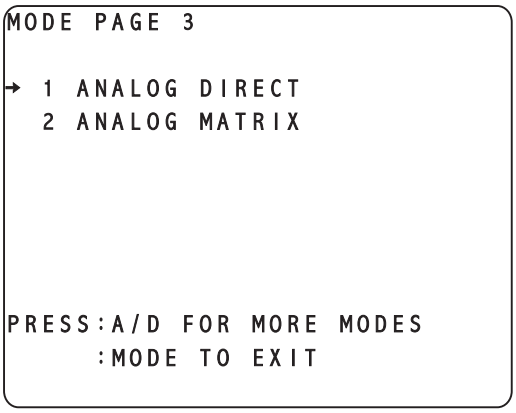


Figure 79 - Video Display of the MODE *Page 3* Menu

If necessary, press the **A-D** button to select the page with the desired **MODE**, then press button **1** - **6** or **SELECT UP/DOWN** to select the desired mode. An arrow will point to the mode selected. Additional information/instructions regarding this function and the modes shown in figures 77, 78 and 79 are described on pages 45 - 48.

Please refer to page 65 for additional information regarding Dolby Digital options, page 70 for additional information regarding DTS, and page 71 for additional information regarding Circle Surround options.

* * *

After selecting a temporary mode for the current input, press the **MODE** button once more to clear the video monitor. The **MASTER VOLUME** can be controlled using the **LEVEL UP**/**DOWN** buttons in these 3 menus.

TAPE OUT Function

This feature simultaneously controls the routing of signals to the audio and video tape out jacks.

Pressing the **TAPE OUT** button once displays the **TAPE OUT** menu, shown in figure 80 and 81, on the video monitor display. The menu title "**TAPE OUT**" is displayed in the upper left. The **INPUT NAMES** shown in this figure are for example only and will most likely differ from the users' set up.

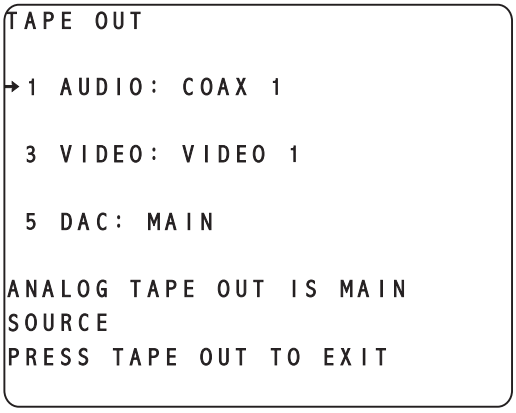


Figure 80 - Video Display of the TAPE OUT Menu with Optional Tape Out DAC installed and set to MAIN

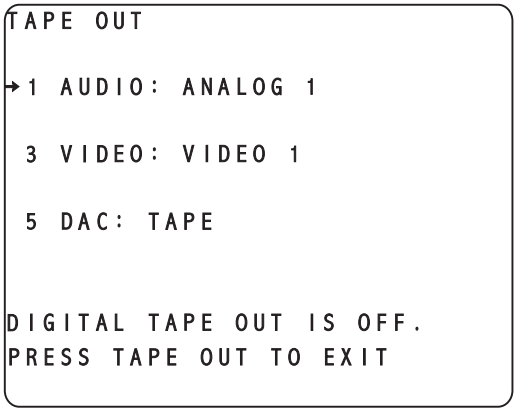


Figure 81 - Video Display of the TAPE OUT Menu with Optional Tape Out DAC installed and set to TAPE

To route a signal to the appropriate **TAPE OUT** jack(s), press the **TAPE OUT** button, press button **# 1.** Use the **LEVEL UP/DOWN** buttons to assign an audio source to the audio **TAPE OUT** jacks. Press button **# 3** and the **LEVEL UP/DOWN** buttons to assign a video input jack to the video **TAPE OUT** jacks.

Note: The composite, multi format and S-video circuits are completely independent. This is to say that a composite video input signal can be output only through the composite video outputs, S-video input signals can be output only through the S-video outputs and multi format input video signals can only be output via the multi format video output.

This menu is dynamic. When the audio source is from an analog jack, the digital tape out jacks are disabled. This is indicated on both the OSD and VFD. When a digital input jack is selected as the source, it is routed to both the analog and digital tape out jacks. When the main DACs are selected (default), this is indicated in both the VFD and OSD. If the optional tape out DAC is not installed, the option to select it (via button **# 5**) is not shown.

Note: An RF input signal will be routed to the analog audio tape out jacks only.

The control circuitry to the video tape out jacks is common to both composite and s-video. Example: when the user routes the composite video signal from a composite input # 1 jack to the composite video tape out jack, the s-video # 1 input simultaneously gets routed to the s-video tape out jack. If composite video # 2 input jack is routed to the composite video tape out jack, then s-video input # 2 jack gets routed to the s-video tape out jack, and so on. There is no multi format video tape out jack so these input signals cannot be recorded.

Button **# 5** allows the user to select whether the signal on the analog **TAPE OUT** jacks will be derived from the main output DACs or the optional tape out DAC (if installed), by displaying **MAIN** or **TAPE** on the display. If the optional tape out DAC has not been installed, there will be no option to edit above button # 5. This setting is only relevant if the analog tape out source is set to a digital input jack. All analog inputs are routed directly to the **TAPE OUT** jacks, without A/D to D/A conversion.

When routing is completed, press **TAPE OUT** to clear the video display. The **MASTER VOLUME** can be controlled in this menu via the **LEVEL LEFT**/**RIGHT** buttons.

Please refer to page 49 for additional **TAPE OUT** features and options information.

CAUTION: It is not advisable to route a 5.1 source (DTS/AC-3) to the optional tape out DAC. This section does not contain Dolby Digital or DTS decoding capabilities. Full scale noise will be output!

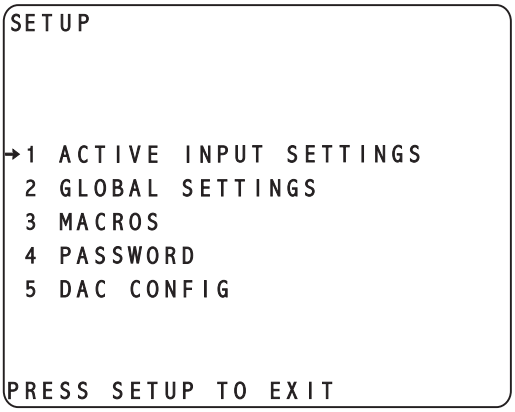
SETUP Function

This function provides access to a series of submenus that will allow the configuration of the entire system.

Note: A complete step-by-step speaker configuration set up guide is located on page 17.

In this section, all features of the **SETUP** menu are discussed along with a diagram of most video monitor displays.

Pressing the **SETUP** button once changes the video display to the first page of the **SETUP** menu shown in figure 82.



The menu title is displayed in the upper left corner with the menu page number.

Pressing button **# 1** leads to a series of submenus that allow the user to edit parameter values that are stored by **INPUT SELECT** button.

Button **# 2** allows the user to edit parameter values that are global. These are parameters that are not stored by **INPUT SELECT** button.

Button **# 3** leads to all of the macro features.

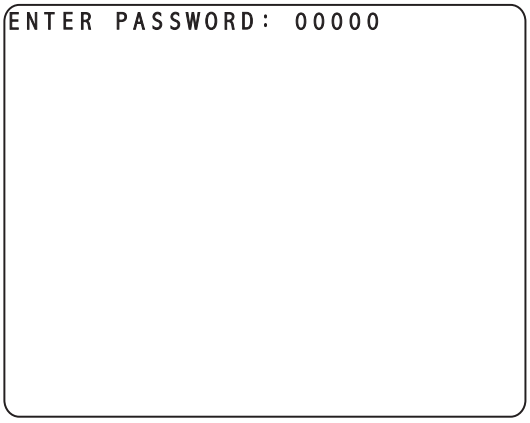
Button **# 4** allows the user to attach a password to the **SET-UP** button.

Button **# 5** displays channel assignment information for each DAC.

Figure 82 - Video Display of the SETUP Menu

As indicated in figure 82, button **# 1** is assigned to features that are stored by input and leads to a series of categorized submenus on 3 pages. Most pages, menus and features are discussed in minor detail in this section, and in depth more on their respective pages in the *FRONT PANEL OPERATIONS* section.

Setup Button Password



It is possible to password protect the entire **SETUP** function, or have no password at all. To set a password for the **SETUP** button press button **# 4**, where the user will be asked "**ARE YOU SURE YOU WANT TO ENTER A PASSWORD FOR THIS MENU?**" Answering "**YES**" by pressing the **A-D** button will display the message shown in figure 83.

Use buttons **1**-**6** to enter a password. After each digit is entered, the digit moves one character to the right. If no password is to be used (factory default), press the **A-D** button five times, which enters all zeros. A zero anywhere in the password translates to no password.

Figure 83 - Video Display of the SETUP Password Page

CAUTION: It is imperative that your new password be recorded. If forgotten, ALL access to the **SETUP** menu will be denied. Please see the **WARNING** on page 16.

DAC Configuration

Pressing button **# 5** in the **SETUP** menu allows the user to view the channels assigned to each DAC card. This is an information page only and not an editable menu. As an example, the first page will say "**LEFT FRONT CEN**" if a three channel Standard or Superior balanced DAC card is in position # 1. Press the **A-D** button to view the channels assigned to the second DAC card, and **A-D** once more for the third DAC card. Press **SET-UP** once to exit this menu.

The following section will discuss all menus and parameters under the **INPUT** button.

SETUP INPUT (Setting up each of the 12 Input Select Buttons)

Setup Input Page 1

```
SETUP INPUT PAGE 1

   1 SPEAKER CONFIG
   2 SPEAKER LEVELS
   3 SPEAKER DELAYS
   4 MODE:MATRIX
   5 ON-SCREEN DISPLAY
   6 VFD BRIGHTNESS:FULL

PRESS: A/D FOR MORE OPT
       SETUP TO EXIT
```

All parameters accessed within the **SETUP/INPUT** menu are separately programmable for each **INPUT SELECT** button. The first of 3 pages of the **SETUP/INPUT** submenu are shown in figure 84

Speaker configuration parameters are accessed by pressing button **# 1** (**SPEAKER CONFIG**).

Figure 84 - Video Display of the SETUP/INPUT *Page 1* Submenu

Speaker Configuration

```
SETUP SPEAKER CONFIG

 1 LEFT/RIGHT
 2 CENTER
 3 SURROUNDS L/R
 4 SUBS
 5 SURROUND CENTER
 6 SIDES L/R: OFF


PRESS SETUP TO EXIT
```

The first submenu (**SPEAKER CONFIG**), shown in figure 85, allows the user to configure speakers to reflect the audio system configuration or the listener's preference for the available speakers and their respective frequency responses.

Figure 85 - Video Display of the SETUP/INPUT *Page 1*/SPEAKER CONFIGURATION Submenu

Left/Right Speaker Configuration

Pressing button **# 1** (**LEFT/RIGHT**) in the Speaker Configuration menu allows the user to configure the front left/right speakers via the left/right submenu shown in figure 86.

```
LEFT/RIGHT CONFIGURATION

→1 CONFIG: FULL RANGE
 2 PHASE PERFECT
 3 LINKWITZ-RILEY
 4 BUTTERWORTH
 5 TYPE: PHASE PERFECT




PRESS SETUP TO EXIT
```

In this submenu, button **# 1** allows the user to set the configuration for the front left/right speakers. The options are: **FULL RANGE**, **CROSSOVER**, **FULL W/LOP** and **OFF**.

Please refer to page 52 for additional details/instructions on configuring speakers, and page 19 for a discussion of crossovers.

Button **#**s **2**, **3** and **4** give access to submenus which allow the configuration for the three types of crossovers in the Casablanca III: **PHASE PERFECT**, **LINKWITZ-RILEY**, and **BUTTERWORTH**.

Button **# 5** allows the user to select the crossover type that will be applicable for the front left/right speakers.

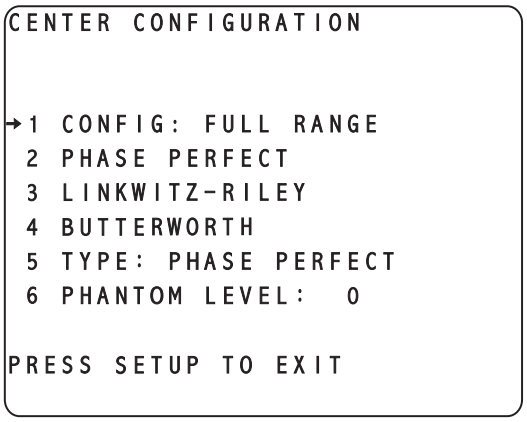
Figure 86 - Video Display of the SETUP/ INPUT *Page 1*/CONFIG/LEFT/RIGHT Configuration Submenu

If the front left/right speakers are to be crossed over, set the front left/right crossover frequencies and slopes for all 3 crossover types (buttons **2**, **3** and **4**) to the same values. Please refer to page 54 for details.

After the front left/right speakers have been configured, press **SETUP** once to return to the **SETUP/INPUT/SPEAKER CONFIGURATION** submenu, and press button **# 2** (**CENTER**) to configure the center speaker. The **CENTER CONFIGURATION** submenu is shown in figure 87.

Center Speaker Configuration

This submenu of settings is exactly the same as that for the front left/right speakers, but applies to the center speaker. All of the same guidelines and procedures apply, with two additional options – Phantom and crossover L/R.



Pressing button **# 1** allows the configuration of the center speaker. If this speaker is not to be crossed over, no signal sent to the **SUB** output, then this should be set to **FULL RANGE**. There is an option where the full range signal can be routed to the center speaker and a low pass part of it routed to the sub. If this is desired, the **CONFIG** setting should be **FUL/LP**. (A crossover type must be selected, and the appropriate crossover frequencies and slopes set up). The center speaker can be crossed over with the low pass portion routed to the front Left/Right speakers. In this case, the **CONFIG** parameter would be set to **XOVRLR**. If no center speaker is present in the system, the **CONFIG** parameter should be set to **PHANTOM**. With this setting, the signal for the center channel is routed to the front Left/Right speakers. The center speaker can also be set to **OFF** or **CROSSOVER**.

Figure 87 - Video Display of the SETUP/INPUT *page 1*/SPEAKER CONFIG/ CENTER Submenu

If a fifth **SUB** DAC channel is installed and enabled in the Casablanca III, the low pass portion of the center signal will be routed to this output. If the **CONFIG** parameter is set to **XOVRLR** the low pass signal will be routed to the front Left/Right subs. In all other cases the low pass portion of the center channel will be routed to the front **SUB** output(s), or **SUB** output if there is only one **SUB** enabled.

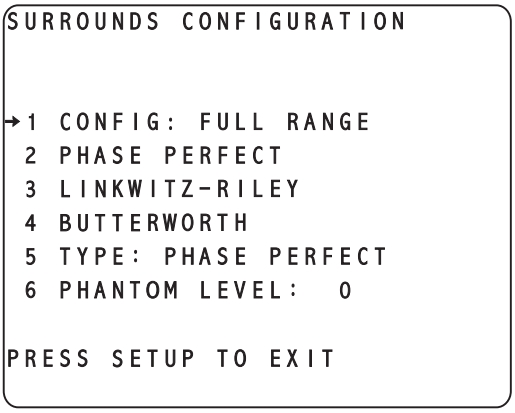
Press button **# 2**, **3** and **4** to set the crossover settings for the center speaker.

Pressing button **# 5** allows the user to select the crossover type that will be applicable for the center speaker.

Button **# 6** allows the user to adjust the level (volume) of center channel information routed to the front Left/Right speakers when the **CONFIG** parameter is set to **PHANTOM**.

Press **SETUP** twice to return to the speaker configuration submenu, then press button **# 3** (**SURROUNDS**) to set up the surround speakers. This submenu is shown in figure 88.

Surround Speaker Configuration



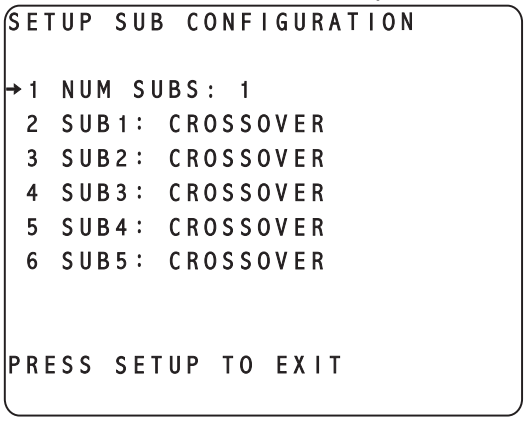
Set the speaker configuration and crossovers, if necessary, in the same manner as the center speaker.

When the surround configuration and crossover setup are complete, press **SETUP** to return to the **SPEAKER CONFIGURATION** submenu, then press button **# 4** to set up the sub woofer.

Figure 88 - Video Display of the SETUP/INPUT *page 1*/CONFIG/SURROUND CONFIGURATION Submenu

Sub Woofer Configuration

The **SUB CONFIGURATION** submenu is shown in figure 89. If sub is not present, or is not desired, set the **NUM** of **SUBS** to **0**. If subwoofers are present, set the number of subs (**NUM SUBS)** to the number that will be used. The number of subs available depends on the number of sub woofer DAC channels installed in the Casablanca III. There may be 4 sub outputs on the rear panel however the user may only have 3 sub- woofers. Set this parameter to the actual number of subs to be used. If the number of subs is to be set to 2, the user has the choice of [front] **L-R** or **F-R** (front-rear).



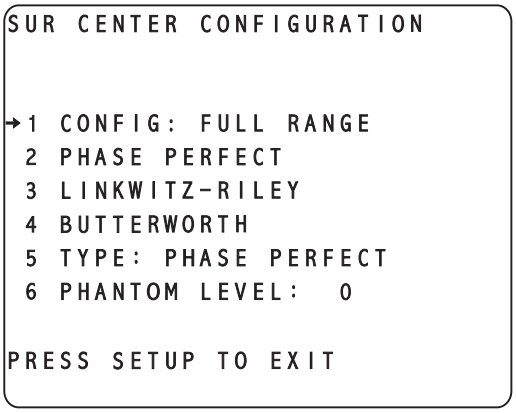
Next, set the **SUB** [#] to either **FULL RANGE** or **CROSSOVER**. It is recommended that the sub woofer's crossover be bypassed and this parameter be set to **CROSSOVER**. Please refer to page 53 for additional information regarding sub woofer configuration.

Figure 89 - Video Display of the SETUP/INPUT *Page 1*/CONFIG/SUB CONFIGURATION Submenu

Note that this menu is not dynamic. Parameters 2 through 6 will always be displayed regardless of the number of sub DAC outputs or how many are enabled.

Press **SET-UP** once to return to the **SPEAKER CONFIG** menu. If a Center Surround DAC is installed and enabled in the Casablanca III, press button **# 5** in the **SPEAKER CONFIG** menu to set up this speaker. The **SURROUND CENTER** configuration menu is shown in figure 90.

Surround Center Configuration



Set the center surround speaker configuration and crossovers in the same manner as the other speakers. The menu options are the same as those for the Left/Right surrounds. If the **CONFIG** parameter is set to **PHANTOM**, its information will be routed to the surround left/right speakers.

Figure 90 - Video Display of the SETUP/INPUT *page 1*/CONFIG/SURROUND CENTER Submenu

Side Speaker Configuration

If side speakers are present in the system, set this parameter to "**ON**". If not, set it to "**OFF** (default). The side speaker crossover information is a replica of the left/right surround channels.

Once all of the speaker sets have been configured, press **SET-UP** twice to return to the **SETUP/INPUT *page 1*** submenu. When a system is being set up for the first time, the next step is to set up the speaker levels. To enter the **LEVELS** menu(s), press button **# 2**. If returning to the main **INPUT SELECT** menu, press **SET-UP** two more times.

Speaker Levels

This submenu allows the user to set the level of each speaker to reflect the audio system speaker configuration, room characteristics, or the listener's preference. The relative range is -15dB to +15dB.

The level submenu(s) are interactive with the DAC channels that are installed into the Casablanca III. If there are 6 DAC channels installed and enabled, the names of these channels will be displayed on one page of the levels submenu. If more than 6 DAC channels are installed and enabled, first a menu will appear asking the user which set of speakers are to have their levels adjusted: **1-6** or **7-12**. In both of these submenus, the installed DAC channel(s) by speaker names, will be displayed.

From an Input Select menu, press **SETUP**, **ACTIVE INPUT SETTINGS** then **SPEAKER LEVELS** to access the speaker levels setup submenu shown in figure 91. If more than 6 DAC channels are installed, the user must press either button **# 1** (**1-6**) or **# 2** (**7-12**) first.

If there are more than 6 DAC channels installed, pressing button **# 2** on the Levels channel choice submenu will produce a second levels submenu as shown in figure 92. The speaker names in this submenu may not match the user's Casablanca III.

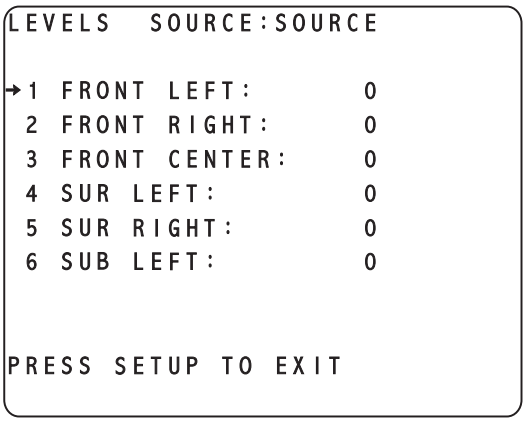
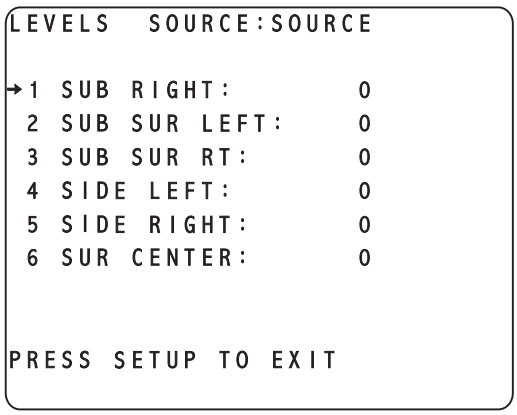


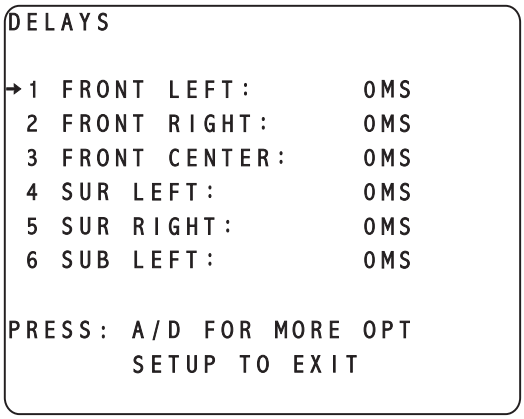
Figure 91 - Video Display of the SETUP/ INPUT/LEVELS 1-6 Submenu



To aid in establishing the desired system and speaker level balance, the Casablanca III provides the user with the option of routing: (1) the currently selected audio signal to the outputs, (2) an internally generated noise signal to the currently selected speaker; or (3) an internally generated noise signal to all speakers simultaneously. Please refer to page 59 for additional information regarding the noise generator.

Figure 92 - Video Display of the SETUP/INPUT/LEVELS 7-12 Submenu

Speaker Delays

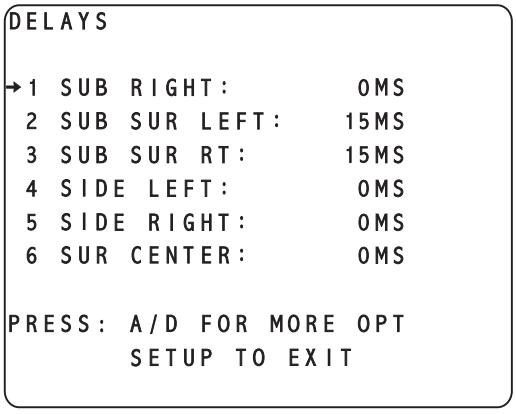


This submenu allows the user to set a time delay for each speaker to reflect the audio system configuration, room characteristics or listener's preference. The allowable range for the front left/right, center and front sub speakers is **0** to **10** milliseconds (mS) and **15** to **31** mS for the surround speakers and subs.

Like the Levels submenu(s), the Delays submenu(s) are interactive. For up to six DAC channels installed and enabled, one Delay submenu will be shown, two if there are more than 6-channels installed and enabled. Unlike the Levels menus, if there are two Delays submenus, navigating between them is accomplished using the **A-D** button.

Figure 93 - Video Display of the SETUP/INPUT/DELAYS 1 Submenu

Press **SETUP**, **INPUT** then **SPEAKER DELAYS** to access the delays setup submenu shown in figure 93.



The current delay settings will be displayed on the video monitor. All delay settings apply to all **MODE**s. Delays can be further manipulated when the current **MODE** is either Dolby Digital, DTS or Circle Surround, via additional Setup submenus for these **MODE**s. Select each speaker one at a time and adjust the individual delay according to the detailed information and graph on page 62.

If a speaker set is turned **OFF** via the **SPEAKER CONFIG** submenu, it will not be displayed in these submenus.

Figure 94 - Video Display of the SETUP/INPUT/DELAYS 2 Submenu

When all speaker delays have been set, press **SET-UP** once to return to the **SETUP/INPUT** page 1 submenu, or **SET-UP** three times to return to the main **INPUT SELECT** menu.

Default Mode

Each **INPUT SELECT** button can have a different default **MODE** assigned to it. To assign a default **MODE** for a given **INPUT SELECT** button, first press the applicable **INPUT SELECT** button, **SETUP**, **INPUT** then button **# 4** (**MODE**). This menu is shown on page 93. Use the **LEVEL UP/DOWN** buttons to edit this parameter and select the desired default **MODE**. Press **SETUP** twice to exit. Repeat this procedure for each **INPUT SELECT** button.

Note: Pressing the front panel **MODE** function button allows the user to audition different modes for a given source, when applicable, however changing modes via the **MODE** button does not store a mode selection.

Onscreen Display (OSD) Setup

Pressing **SETUP**, **ACTIVE INPUT SETTINGS**, then **ON-SCREEN DISPLAY** (button # **5**) activates the On-Screen (OSD) set up menu, shown in figure 95.

In this display, button **# 1** (**BACK COLOR**) allows the user to select up to 7 different OSD background colors. Button **#s 2** and **3** (respectively) allow the OSD to be offset from the left and top edges of the screen to accommodate differences in monitors.

The configuration (**CONFIG**) feature (button **# 4**) can switch the Casablanca III's OSD to accommodate either an **NTSC** or **PAL** monitor.

```
SETUP ON-SCREEN DISPLAY

→ 1 BACK COLOR:BLUE
  2 LEFT EDGE:   5
  3 TOP EDGE:    3
  4 CONFIG: NTSC
  5 DISPLAY TIME:    5
  6 STATUS SETUP


PRESS SETUP TO EXIT
```

When a function button is pressed, its OSD will remain on the screen until the user is no longer in any function menu. The **DISPLAY TIME** (in seconds) setting (button **# 5**) allows the user to set the amount of time (delay) that the video monitor displays the **INPUT SELECT** menu, when changing inputs.

Button **# 6** allows the user to decide which parameters will show on the **STATUS** page and their placement on the screen. This feature is discussed next.

Figure 95 - Video Display of the SETUP/INPUT *Page 3*/ON-SCREEN DISPLAY Submenu

Status Setup

STATUS SETUP (button **# 6** in the OSD submenu) displays a submenu, which allows the user to change the position of the Status screen text on the video monitor only. The first Status Setup submenu is shown in figure 96.

```
SETUP STATUS DISPLAY

            POSITION
→ 1 MODE:    4
  2 INPUT:   2
  3 TAPE:    5
  4 LEVEL:   9
  5 EQ:      6
  6 PHASE:   7
PRESS: A/D FOR MORE OPT
       SETUP TO EXIT
```

The items in the two Status submenus are displayed on the OSD when the **STATUS** button on the hand held remote is pressed. Each item has a value range between 0 and 10. Setting any value to **0** will disable that item from being displayed in the OSD. **1** is the highest position vertically and **10** is the lowest.

Press the **A-D** button to go to the second Status Setup submenu, to set the values for **SOURCE** and **SAMPLE RATE**.

Note: It is possible to have conflicting results if more than one item is displayed in the same position.

Figure 96 - Video Display of the SETUP/INPUT/OSD/STATUS page 1 Setup Submenu

Press the **SETUP** button twice to return to the **SETUP**/**INPUT** ***page 1*** submenu, or 4 times to return to the main **INPUT SELECT** menu.

VFD Brightness

Each **INPUT SELECT** button can have a different VFD brightness assigned to it. From the Input Select menu, press **SETUP**, **ACTIVE INPUT SETTINGS**, then **VFD BRIGHTNESS** (button **# 6**). This allows the user to change the default brightness value. The range is from **OFF** to **FULL** (brightest), in four steps. Any changes made to this parameter will be reflected the next time that **INPUT SELECT** button is pressed. If this value is set to **OFF**, pressing any button except **DISPLAY** will automatically brighten the VFD to its maximum level. The VFD will revert back to its default brightness *X* seconds after the last button press. *X* represents the **TIME** parameter value in the **SETUP**/**ACTIVE INPUT SETTINGS** ***page 1***/**OSD** submenu. If the VFD is on but not set to **FULL**, pressing any button other than another **INPUT SELECT** button will allow the VFD to remain at its default brightness. The **DISPLAY** button will always override the default VFD brightness setting. The **Display Time** feature takes precedent over the VFD brightness parameter. See details regarding the **Display Time** parameter on page 79.

Setup Input Page 2

```
SETUP INPUT PAGE 2

   1 LFE PHASE: 0
   2 SOURCE
   3 DOLBY DIGITAL
   4 DTS
   5 CIRCLE SURROUND
   6 POST PROCESSES

PRESS: A/D FOR MORE OPT
       SETUP TO EXIT
```

Figure 97 - Video Display of the SETUP/INPUT *Page 2* Submenu

To access this page, from the **INPUT SELECT** page or any function menu, press **SET-UP**, **ACTIVE INPUT SETTINGS**, then the **A-D** button once. Page 2 of the **SETUP**/**ACTIVE INPUT SETTINGS** menu is shown in figure 97.

LFE Phase

The default **LFE PHASE** for the currently selected **INPUT SELECT** button can be changed from **+** (in phase) to **–** (180 degrees out of phase). This can be edited via button **# 1**.

Mapping a Source (Input Jack to INPUT SELECT button)

Pressing button **# 2** accesses 2 submenus that allow the user to assign the input jacks active on the currently selected **INPUT SELECT** button. There is one page for audio jack mapping and one for the combined video jacks. Up to six audio and six video input jacks can be mapped to any one **INPUT SELECT** button. The order that they are mapped determines the search order when pressing the **A-D** button in either **INPUT SELECT** menu.

Please refer to page 64 for additional information and examples of mapping input jacks to **INPUT SELECT** buttons.

Setup Dolby Digital

Button **# 3** provides a two page submenu which allows the user to set up preferences pertaining to Dolby Digital source material, by **INPUT SELECT** button. The first page of this submenu is shown in figure 98.

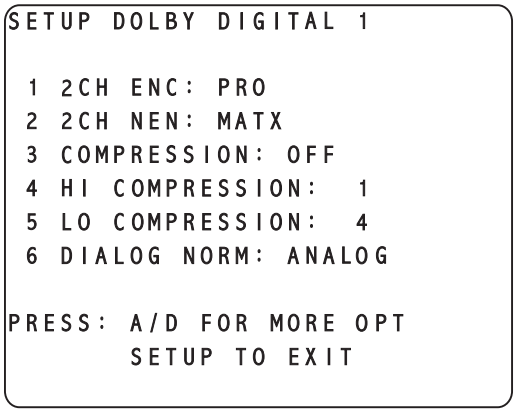


Figure 98 - Video Display of the SETUP/INPUT *Page 2*/DOLBY DIGITAL *Page 1* Submenu

2-Channel Mode

Some Dolby Digital sources contain only two of the possible 7 or 8 main channels. This is sometimes noted on the material's cover, in the form of "Dolby Digital 2.0" or “Dolby Surround” as opposed to "Dolby Digital 5.1", 7.1, etc.

Embedded in most two-channel Dolby Digital data streams is an indication of whether or not the material is Dolby Surround encoded. There are three possibilities for this indication: Dolby Surround encoded; Not Dolby Surround Encoded; or No Indication.

Regardless of the indication value, the user can instruct the Casablanca III to further process this decoded signal in virtually any **MODE**. For Dolby Surround encoded signals, use button **# 1** (**2CHEN** – or 2-channel encoded) to indicate which **MODE** should be used to further process the incoming signal. Use button **# 2** (**2CHNEN** – or 2 channel non-encoded) to indicate which **MODE** is desired for further processing, if the signal is non-encoded. When a mode is applied to a two-channel Dolby Digital signal, the signal is first Dolby Digital decoded. This decoded signal is manipulated by the mode selected in the **2CHEN** or **2CHNEN** parameters. When the additional selected mode is **MATRIX**, the **MODE** displayed in the VFD when in the **INPUT SELECT MENU** will say “**DOLBY DIGITAL + MATX**”

If the indication is that the signal is not Dolby Surround encoded, or there is no indication, and the **2CHNEN MODE** is set to Dolby Digital, no additional surround processing will occur, producing a two-channel (stereo) output.

Compression

Dolby Digital contains provisions for reducing the dynamic range of a Dolby Digital source. This means reducing the loudness of the loud passages and increasing the loudness of the quiet passages. Possible reasons for reducing the dynamic range of a source include late night listening when loud moments may disturb others, and making tapes for automotive / portable use wherein quiet passages may not be heard.

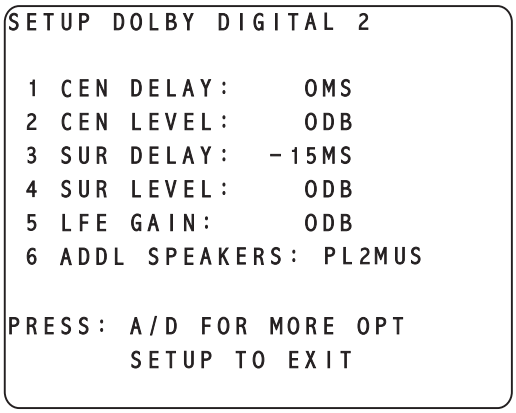
Casablanca III contains three parameters to control Dolby Digital compression. Button **# 3** (**COMPRESSION**) simply turns the compression **ON** or **OFF**. Button **# 4** (**HI COMPRESSION**) controls the amount of volume by which loud passages will be reduced. Button **# 5** (**LOW COMPRESSION**,) controls the amount of loudness by which quiet passages will be increased. A larger number indicates a greater amount of increase or decrease.

Note: Some Dolby Digital sources do not allow for compression, in which case altering these settings will not result in an audible change.

Dialog Normalization

In the first Dolby Digital setup page, press button **# 6** to set the dialog normalization value. Dolby Digital contains the useful provision for making all Dolby Digital sources have the same perceived loudness even though they may have been recorded or mixed at very different levels. This is done by embedding in the datastream a value that the program material will need to be adjusted by to conform to an average dialog level established by Dolby Laboratories. It should be noted that all channels are adjusted, not just the center channel. Casablanca III contains two options for this setting: **ANLG** (analog) or **DIGI** (digital). Please refer to page 66 for additional information pertaining to Dialog Normalization.

From the **SETUP**/**ACTIVE INPUT SETTINGS** ***Page 2***/**DOLBY DIGITAL** submenu, press the **A-D** button once to access page 2 of the Dolby Digital set up submenu, which is shown in figure 99.


SETUP DOLBY DIGITAL 2
1 CEN DELAY: 0MS
2 CEN LEVEL: 0DB
3 SUR DELAY: -15MS
4 SUR LEVEL: 0DB
5 LFE GAIN: 0DB
6 ADDL SPEAKERS: PL2MUS
PRESS: A/D FOR MORE OPT
SETUP TO EXIT

This submenu allows the user to adjust the center and surround speaker delays and levels as well as control the LFE GAIN and additional speakers, when the mode is Dolby Digital.

All values are relative to the values set in the **SETUP**/**INPUT**/**LEVELS** and **DELAYS** submenus. As an example, if the center speaker level in the **SETUP**/**INPUT**/**LEVELS** submenu is set to **+5**, and in this submenu it is set to **+3**, the total center level when the **MODE** for the currently selected input is Dolby Digital, will be +8.

Figure 99 - Video Display of the SETUP/INPUT *Page 2*/DOLBY DIGITAL *Page 2* Submenu

Since discrete sources are often recorded with surround delays, it is recommended that the delay setting for 5.1 sources be 15 mS less than non 5.1 sources.

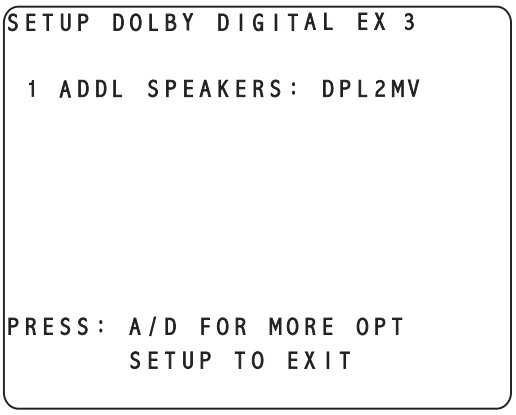
Button **# 5** controls the **LFE** gain setting for Dolby Digital sources. Dolby Digital sources usually contain an LFE (low frequency effects) channel. This channel commonly contains sound effects such as explosions but may also contain soundtrack information. Casablanca III offers the user an **LFE** range of **0** to **-30** for this setting, as well as **OFF**. Please refer to page 67 for more detailed information about using this parameter.

If the incoming signal is Dolby Digital 5.1, and the user desires to create sides or a center surround channel, use the **+SPKR** (Additional Speakers) parameter (button **# 6**) to indicate which **MODE** will be used in their creation. Modes that can be used are:

VFD	DEFINITION
OFF	No additional speaker signals will be created.
THETA	Theta Proprietary Processing
DTSES	DTS ES
NEO6M	DTS NEO:6 Music
NEO6C	DTS NEO:6 Cinema
PL2MU	Dolby Pro Logic IIx Music
PL2MV	Dolby Pro Logic IIx Movie

Table 8 – Additional Speaker Modes for Dolby Digital Source.

Press the **A-D** button to access Page 3 of the Dolby Set Up submenu. This page contains parameters used when the mode is Dolby Digital EX only. This menu is shown in figure 100a.

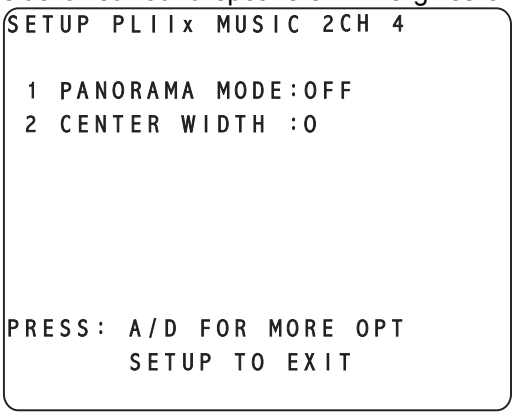


Press button **# 1** and use the **LEVEL UP/DOWN** buttons to set which mode will create the center surround or side speakers when the mode is Dolby Digital EX.

Figure 100a - Video Display of the SETUP/INPUT *Page 2*/DOLBY DIGITAL *Page 2* Submenu

Press the **A-D** button to access Page 4 of the Dolby Set Up submenu. This page contains parameters used when the mode is Dolby Pro Logic IIx Music and the incoming signal is 2 channel, only. This menu is shown in figure 100b.

The **Panorama Mode** feature, when **ON** (button **# 1** in figure 100b), extends the front stereo image to include the side or surround speakers. This gives a "wraparound" effect with sidewall imaging. It is particularly effective for recordings which have strong left or right channel elements in the mix, as these are detected and accentuated by the Panorama process. The Panorama feature is typically intended for use with Music Mode. Refer to figure 49b on page 68.

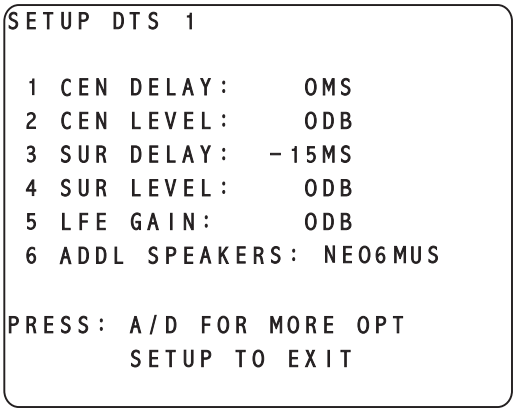


With Pro Logic IIx Music decoding, dominant center signals can come only from the center speaker. The **Center Width** control allows variable adjustment of the center image so that it may be heard only from the center speaker, only from the left/right speakers as a phantom image, or from all three front speakers to varying degrees. There will be no effect if the center speaker is set to **OFF** or **PHANTOM**. The range is from 0 to 7. Please refer to figure 49c on page 68 for additional details.

Figure 100b - Video Display of the SETUP/INPUT *Page 2*/DOLBY DIGITAL *Page 2* Submenu

Press the **SETUP** button three times returns to the main **INPUT SELECT** page, once to return to **SETUP/INP** page 2.

Setup DTS



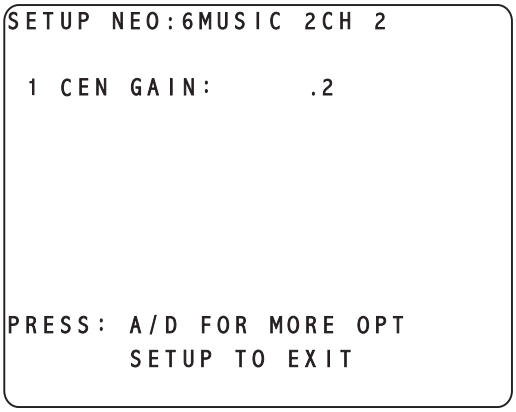


Figure 101-102 - Video Display of the SETUP/INPUT *Page 2*/DTS 1 and DTS 2 Submenus

The first submenu allows the user to adjust the center and surround speaker delays and levels as well as control the LFE GAIN and additional speakers, when the mode is DTS.

All values are relative to the values set in the **SETUP**/**INPUT**/**LEVELS** and **DELAYS** submenus. As an example, if the center speaker level in the **SETUP**/**INPUT**/**LEVELS** submenu is set to **+5**, and in this submenu it is set to **+3**, the total center level when the **MODE** for the currently selected input is DTS, will be +8.

Since discrete sources are often recorded with surround delays, it is recommended that the delay setting for 5.1 sources be 15 mS less than non 5.1 sources.

Button **# 5** controls the **LFE** gain setting for DTS sources. DTS sources usually contain an LFE (low frequency effects) channel. This channel commonly contains sound effects such as explosions but may also contain soundtrack information. Casablanca III offers the user an **LFE** range of **0** to **-30** for this setting, as well as **OFF**. Please refer to page 67 for more detailed information about using this parameter.

If the incoming signal is DTS 5.1, and the user desires to create sides or a center surround channel, use the **+SPKR** (Additional Speakers) parameter (button **# 6**) to indicate which **MODE** will be used in their creation. Modes that can be used are:

VFD	DEFINITION
OFF	No additional speaker signals will be created.
THETA	Theta Proprietary Processing
DTSES	DTS ES
NEO6M	DTS NEO:6 Music
NEO6C	DTS NEO:6 Cinema
PL2MU	Dolby Pro Logic IIx Music
PL2MV	Dolby Pro Logic IIx Movie

Table 9 – Additional Speaker Modes for DTS Source.

Note: The **ADDL SPREAKERS** setting has no effect (is bypassed) if the mode is DTS 96/24, DTS ES Matrix or Discrete.

Pressing the **A-D** button once will take the user to the second DTS Setup page, shown in figure 102.

In Cinema Mode, for Stereo film soundtracks, sounds steered to the Center are subtracted from the Left/Right channels. (In Music Mode, the Center is never fully subtracted from the Left/Right channels).

Center Gain **(CEN GAIN)** is the parameter which controls the amount of subtraction. It varies between **0** and **0.5** in steps of 0.1. The default value is **0.2**. When **CEN GAIN** is set at **0**, nothing is subtracted from the left and Right channels. When **CEN GAIN = 0.5**, the Center channel is subtracted from the Left and Right channels at -6dB for each channel. The signal level sent to the Center channel is not affected by **CEN GAIN**.

Note: The **CEN GAIN** parameter will have an effect only if the mode is DTS NEO:6 Music and the incoming signal is 2 channel.

Please refer to page 70 for additional details regarding setting up DTS parameters.

Press **SETUP** once to return to the **SETUP**/**ACTIVE INPUT SETTINGS** ***page 2*** menu, or three times to return to the main **INPUT SELECT** page.

Setup Circle Surround II

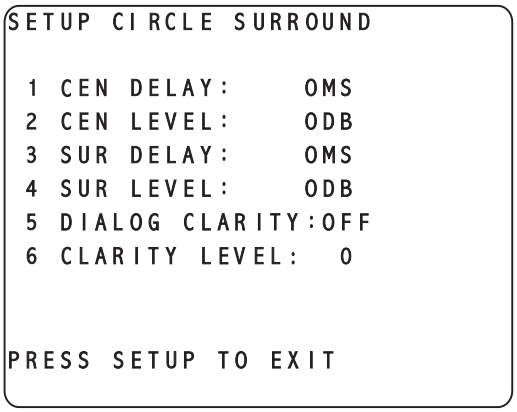


Figure 103 - Video Display of the SETUP/INPUT *Page 2*/CIRCLE SURROUND Submenu

Press **SETUP**, **ACTIVE INPUT SETTINGS**, **A-D** then **CIRCLE SURROUND** to enter the Circle Surround setup menu, as shown in figure 103.

This submenu allows the user to adjust the center and surround speaker delays and levels as well as control **DIALOG CLARITY** and **LEVEL**, when the mode is Circle Surround II.

All values are relative to the values set in the **SETUP/INPUT/LEVELS** and **DELAYS** submenus. As an example, if the center speaker level in the **SETUP/INPUT/LEVELS** submenu is set to **+5**, and in this submenu it is set to **+3**, the total center level when the **MODE** for the currently selected input is one of Circle Surround II, will be +8.

With Circle Surround, the user also has the option to adjust the **DIALOG CLARITY**. This parameter is used to help the end user discern more accurately what is being said from the rest of the audio track.

Use button **# 5** to turn Dialog Clarity **ON** or **OFF**. Button **# 6** is used to set the Clarity Level. The range is **0**-**10**, with **0** being off.

Press **SETUP** once to return to the **SETUP**/**ACTIVE INPUT SETTINGS** *page 2* menu, or three times to return to the main **INPUT SELECT** page.

Post Process

This submenu, shown in figure 104, allows the user to select an additional process to add to the incoming signal once it has already been processed/decoded via the selected **MODE**. Only one post process can be selected per input.

```
SETUP POST PROCESS

 1 OFF
 2 ST/FR
 3 PARTY
 4
 5 CENTER SPREAD



PRESS SETUP TO EXIT
```

The available post processing consists of:

OFF. Which applies no further processing;

Stereo Front/Rear (**ST/FR**): takes signals from the front and surround lefts, adds them together and outputs this sum equally to the front left and surround left speakers. The same applies for the right front and surround speakers. The process varies slightly depending on whether the **MODE** is stereo, mono or a matrix.

Figure 104 - Video Display of the SETUP/INPUT *Page 2*/POST PROCESS Submenu

Party: takes parts of each original channel's signal, blends them with all others and outputs this mix to all speakers. Each speaker will have a blend of all channels.

Center Spread is a process in which part of the center channel is routed to the front left/right speakers. It is enabled in the Post Process submenu, and altered in the **SETUP**/**ACTIVE INPUT SETTINGS**/***page 3*** submenu, under the **CENTER SPREAD** parameter.

Press **SETUP** once to return to the **SETUP**/**ACTIVE INPUT SETTINGS** *page 2* menu, or three times to return to the main **INPUT SELECT** page.

Setup Input Page 3

```
SETUP INPUT PAGE 3

   1 MISC
   2 MASTER DELAY:  0
   3 PASSWORD
   4
   5 CENTER SPREAD: 0
   6 SIX SHOOTER:2

PRESS: A/D FOR MORE OPT
       SETUP TO EXIT
```

This is the third page of the **SETUP**/**ACTIVE INPUT SETTINGS** menu. It allows editing of the active input name, setting a master audio delay, setting a password for each **INPUT SELECT** button, enabling/disabling Auto-Search, setting the Center Spread parameter and setting up the optional Six Shooter. All of these features are discussed below.

Figure 105 - Video Display of the SETUP/INPUT *Page 3* Submenu

Setup Miscellaneous

Press button **# 1** to enter the **MISC** submenu.

Naming the Current Input Select button

Select the input to rename. Then press **SETUP**, **ACTIVE INPUT SETTINGS**, **A-D** twice, **MISC** and button **# 1** to name the currently selected input. The letters **VFD** or **OSD** will be displayed in the lower portion of the display. VFD indicates that the name in the VFD is to be edited. VFD names are limited to 4 characters. Press the **LEVEL UP**/**DOWN** button to change characters and the **LEVEL LEFT**/**RIGHT** to change character positions. Pressing the

DISPLAY button once will clear the current **INPUT SELECT** name. Press the **A-D** button to edit the OSD name. **OSD** will appear in the lower portion of the display. The OSD name can be up to 15 characters, the current character to be edited blinks on screen.

Press **SETUP** once to return to the **SETUP/INP *page 3*** submenu.

Master Delay

When video processing occurs, there can be a delay in the output of the video signal significant enough to put the audio and video out of sync. The Casablanca III allows the user to set an overall, or master delay on all outputs in order to re-sync the audio with the video signal. In the **SETUP/ACTIVE INPUT SETTINGS *page 3*** submenu, press button **# 2** and use the **LEVEL UP/DOWN** buttons to adjust the audio delay time until the video appears to be in sync with the audio. The range is **0** to **100** mS at 48KHz.

When complete, press **SETUP** twice to return to the **INPUT SELECT** menu.

Password for Each INPUT SELECT Button

Press button **# 3** to set a password for the currently selected input. Entering a password here will prompt the user to type in the password each time **SET-UP** is selected while on this **INPUT SELECT**.

When the **PW** button is pressed, "**ARE YOU SURE YOU WANT TO ENTER A PASSWORD FOR THIS MENU?**" message appears on the screen. Pressing **NO** (button **# 6**) reverts back to the **SETUP/INP *Page 3*** submenu. Pressing **YES** (**A-D** button) will display a screen that allows a password to be entered, with the first character blinking. The user can use buttons **1**-**6** to enter a password, or elect to have no password for this **INPUT SELECT** button by pressing the **A-D** button 5 times, which will display all zeros, indicating no password.

Note: If a zero appears in any position of the password, it will be seen as all zeros, or no password. **PLEASE REMEMBER and/or WRITE DOWN YOUR PASSWORD!** If it is forgotten, all access to password protected areas will be denied! Please refer to page 16 for additional information on using passwords.

Center Spread

This parameter adjusts the mix between the center speaker and the front left/right speakers. This effect is a post process to all other digital signal processing and is activated in the **POST PROCESS** submenu. The higher the value set in **SETUP/ACTIVE INPUT SETTINGS/*page 3***, the more center channel information is routed to the front left/right speakers. If the value were at its highest (15), all of the center speaker information would be routed to the front left/right speakers, the same as phantoming the center speaker.

Six Shooter

The Six Shooter is an external device that allows the 6 analog output channels of an SACD or DVDA player to integrate with the Casablanca III. There are 3 inputs and one output on the Six Shooter. The first two inputs are designed to receive SACD or DVDA signals. The third input receives the first 6 output channels of the Casablanca III. The outputs of the Six Shooter are connected to the amplifier inputs.

The first two-channels of the Six Shooter contain volume controls. The volume for these two inputs is controlled by the Casablanca III.

When the Six shooter is used, the user first selects the appropriate **INPUT SELECT** button on the Casablanca III, then press **SETUP\INP\A-D\A-D\6SHOT**. Using the **LEVEL UP\DOWN** buttons, select which Six Shooter input will be used. For all other **INPUT SELECT** buttons on the Casablanca III, set this parameter to **3** so that the incoming signal is routed from the first 6 outputs of the Casablanca III into Input **# 3** of the Six Shooter (which is a bypass) and then directed to the amplifiers.

Please refer to Appendix B for a Six Shooter wiring diagram.

Setup Global

```
SETUP GLOBAL

  1 ANALOG LEVELS
  2 JACK NAMES
  3 REMOTE POWER
→ 4 CLEAR BALANCE:ON
  5 RS232
  6 MUTE/VOLUME SETUP

PRESS: A/D FOR MORE OPT
       SETUP TO EXIT
```

This function provides access to a series of submenus that will allow the configuration of global parameters, those not stored by input select button.

Press **SETUP**, then **GLOBAL** (button **# 2**). The first page of the Global submenu is displayed, as shown in figure 106.

Figure 106 - Video Display of the SETUP/GLOBAL *Page 1* Submenu

Analog Input Levels

In the first Global menu, pressing button **# 1** accesses the **ANALOG INPUT LEVELS** submenu, shown in figure 107.

```
SETUP ANALOG INPUT LEVEL

  1 ANALOG 1      :0
  2 ANALOG 2      :0
  3 ANALOG 3      :0
→ 4 ANALOG 4      :0
  5 ANALOG 5      :0
  6 ANALOG 6      :0


PRESS SETUP TO EXIT
```

This function allows the user to adjust the relative **ANALOG** input **LEVEL** for each analog source. The allowable relative range is +19 to -14dB in 1dB increments, then steps to -16, -18 and -22dB.

Select the analog input to be adjusted by pressing buttons **1**-**6** once. Adjust the relative input level using the **LEVEL UP**/**DOWN** buttons.

Please refer to page 75 for additional information regarding setting the analog input levels.

Figure 107 - Video Display of the SETUP/ANALOG INPUT LEVELS Submenu

Jack Names

In the Global *page 1* menu, pressing button **# 2** accesses a series of submenus which allow the user to name the Casablanca III's input jacks, both audio and video. The **JACK NAMES** submenu is shown in figure 108.

```
SETUP INPUT JACK NAMES


 1 ANALOG
 2 DIGITAL 1 -COAXIAL
 3 DIGITAL 2 -MISC
→4 DIGITAL 3 -MISC
 5 VIDEO 1
 6 VIDEO 2

PRESS SETUP TO EXIT
```

Pressing button **# 1** accesses a submenu that allows the analog audio input jacks to be named. Button **# 2** does the same for the coaxial digital audio input jacks, button **# 3** and **4** allow the user to name all non-coaxial digital audio input jacks. Buttons **# 5** and **# 6** lead to submenus that allow the naming of the video jacks.

On some versions of video card, a capitol "O" is not present in the character set. In this case, use the zero.

Please refer to page 76 for additional details and an example of editing an input jack name.

Figure 108 - Video Display of the SETUP/ INPUT/JACK NAMES Submenu

Main Power Triggers

The **REMOTE POWER** jack and three **MAIN POWER** jacks on the rear panel can be programmed to output 12V, either continuous **DC** or a **PULSE**. This feature is used to turn on other system components (power amplifiers, etc), from the Casablanca III From the first **SETUP**/**GLOBAL** page, press button **# 3** to access the **REMOTE POWER** submenu shown in figure 109.

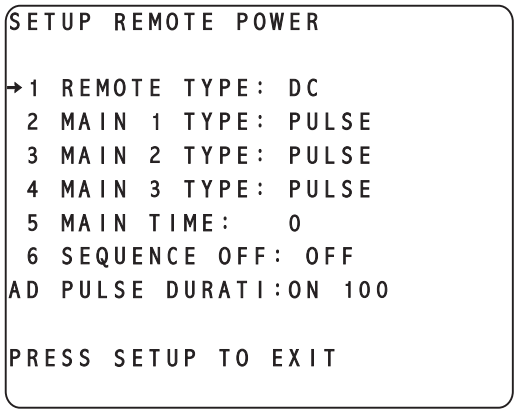

SETUP REMOTE POWER
→1 REMOTE TYPE: DC
2 MAIN 1 TYPE: PULSE
3 MAIN 2 TYPE: PULSE
4 MAIN 3 TYPE: PULSE
5 MAIN TIME: 0
6 SEQUENCE OFF: OFF
AD PULSE DURATI:ON 100
PRESS SETUP TO EXIT

Figure 109 - Video Display of the SETUP/GLOBAL/REMOTE POWER Submenu

Use button **# 1** to indicate whether the output of the **REMOTE POWER** jack should be 12VDC (**DC**) or a 12V pulse (**PULSE**). The REMOTE POWER jack is triggered only when the REMOTE button on the hand held remote, or the front panel, is pressed. The specification sheet for the device to be triggered should contain information as to which type of signal it requires, and if it is a pulse, the minimum pulse duration.

Buttons **2**, **3** and **4** allow the setup of the three **MAIN POWER** jacks on the rear panel. These jacks are activated/deactivated each time the Casablanca III is put in/out of standby.

The **MAIN POWER 1** jack is activated immediately upon exiting the standby mode (pressing the front panel or the hand held remote **POWER** button), the **MAIN POWER 2** jack is activated *X* seconds after exiting standby and the **MAIN POWER 3** jack is activated 2*X* after exiting standby. *X* represents the time, in seconds, that is set by pressing button **# 5** – **MTIM**, or Main [Delay] Time. This is useful for sequencing the turn on of high power components such as amplifiers. When the Casablanca III is put into standby, all of the **MAIN POWER** jacks can turn off simultaneously, or sequenced off in the opposite order that they were activated. This is accomplished by setting **SEQ** (button **# 6**) to **ON** (sequenced shutdown) or **OFF** (simultaneous shutdown).

If any of the rear panel power jacks is set to **PULSE**, the duration (in milliseconds) of this pulse can be set by the user by pressing the **A-D** button and using the **LEVEL UP/DOWN** buttons.

Please refer to page 76 for more detailed descriptions/instructions of the remote power jacks.

Press **SETUP** once to return to the first page of the **SETUP/GLOBAL** menu, or three times to return to the main **INPUT SELECT** page.

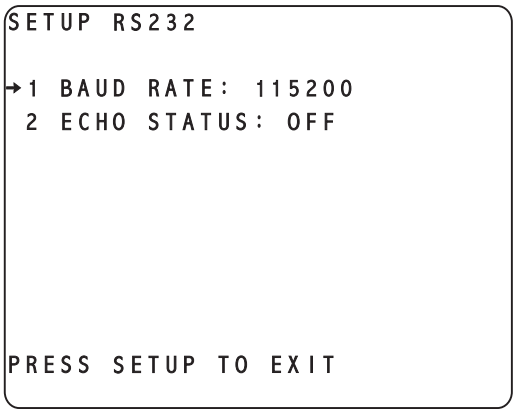
Clear Balance (Temporary Settings Control)

Any changes in the **BALANCE** menus are, by default, temporary. When an **INPUT SELECT** button is pressed or the Casablanca III is powered down/put into standby, any changes will be reset to zero. This feature has an override, set by pressing button **# 4** in the first **SETUP**/**GLOBAL** page (figure 106 on page 107). When this parameter is set to **OFF**, changing inputs or powering down/going into standby will maintain all **BALANCE** menu settings.

RS232

In the first **SETUP**/**GLOBAL** page, press button **# 5** to access the **RS232** submenu shown in figure 110.

Press button **# 1** (**BAUD**) and use the **LEVEL UP**/**DOWN** buttons to select the Baud rate that matches that of the RS232 control device.



Button **# 2** (**ECHO STATUS**) allows the user to enable or disable the output of data to the RS232 port and if enabled, determine which [status] level, or pre-determined group of bytes it outputs. The Casablanca III can be set to automatically communicate all changes to the RS232 port. This can be done by selecting **ECHO STATUS**. If any Casablanca III parameter changes, that level's data will be sent to the port. This is useful for monitoring master level, input, etc. when the user has access to both the Casablanca III and the touch-panel controller, to keep them synchronized. It is also useful when there is no on-screen display and the VFD is not visible from the main listening position. Setting this value to **OFF** disables any parameter change information from being output to the RS232 port.

Figure 110 - Video Display of the SETUP/GLOBAL/RS232 Submenu

The RS232 protocol is available from Theta's website at www.thetadigital.com.

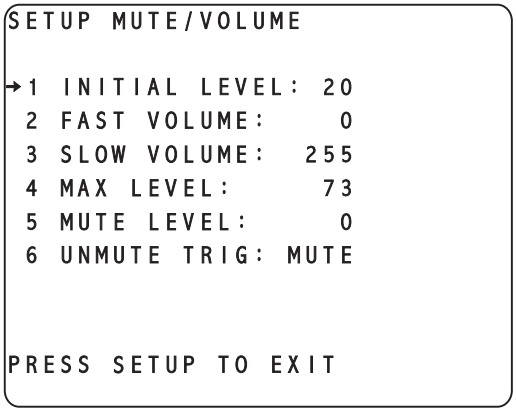
If the RS232 feature is not being used, ensure that the **ECHO STATUS** parameter is set to **OFF**. Other settings can slow the operation of the Casablanca III.

When all settings are complete in this submenu, press **SETUP** three times to return to the **INPUT SELECT** menu.

Mute/Volume

This submenu provides the user with a method of setting volume and mute control parameters. Press **SETUP**, **GLOBAL**, then button **# 6** (**MUTE/VOLUME**). This submenu is shown in figure 111.

Initial Power-On Master Volume



Button **# 1** (**INITIAL LEVEL**) allows the user to store the initial volume setting that the Casablanca III will default to when it comes out of standby.

Figure 111 - Video Display of the SETUP/GLOBAL/MUTE-VOLUME Submenu

FVOL and SVOL

When certain parameters are edited or the master volume changed, holding the **LEVEL UP**/**DOWN** button for more

than 5 steps will, by default, speed up the rate an which the value changes. This is referred to as *Fast Mode*. It is possible to set the speed of the fast mode to the users preference. In **FVOL** (Fast Volume – button # 2) a value of **0** will allow the Fast Mode to be its quickest (no delay between steps), and a delay of **255** mS allows it to be its slowest.

The rate at which the **LEVEL UP**/**DOWN** buttons respond during the first 5 steps is referred to as *Slow Mode*. **SVOL** (button **# 3**) allows the user to set the speed of increment changes during these first 5 steps (a higher delay time) or increase their speed (a lower delay time setting). In **SVOL** (Slow Volume) a delay of **0** will allow the Slow Mode to be its quickest, and a delay of **255** allows it to be its slowest.

Maximum Overall Level

Button **# 4** (**MAX**) allows the user to set a maximum master volume level. This is especially useful in a household where young relentless children and smart pets have access to the system.

Changing the Default MUTE Level

Pressing button **# 5** allows the user to set the volume level of the **MUTE** function.

MUTE Off Trigger

Setting this parameter (accessed via button **# 6**) to **MUTE** allows only the **MUTE** button to un-mute the Casablanca III. Setting this parameter to **M+V** (**MUTE** and **VOLUME**) allows both the **MUTE** and **LEVEL UP**/**DOWN** buttons to un-mute.

Press the **SETUP** button once to return to the **SETUP**/**GLOBAL** *page 1* submenu. Press the **A-D** button once to go to the second **GLOBAL** page, shown in figure 112.

Cursor Type

```
SETUP GLOBAL 2

→ 1 CURSOR:  CURSOR
  2 MESSAGE: OFF

  4 VFD DIM MINUTES:  5
  5 SERIAL NUMBER


PRESS: A/D FOR MORE
       SETUP TO EXIT
```

Figure 112 - Video Display of the SETUP/GLOBAL *Page 2* Submenu

When editing jack or input select names, the character being edited can be indicated by a flashing cursor, the character blinking, both, or no indication. This preference is set in the **SETUP**/**GLOBAL** *page 2* submenu, button **# 1**.

Displaying Mode Change Messages

As discussed in the **MODE** section of this manual, when the Casablanca III receives a Dolby Digital or DTS signal on the currently selected input and the **MODE** is different from the incoming signal, a message will briefly appear on the VFD and OSD stating that the Casablanca III has received a certain format and is temporarily changing the **MODE**. This message is turned off by default but can be turned on. Pressing button **# 2** and changing the value to **ON** achieves this.

Note: If the default **MODE** is **DOLBY DIGITAL** or **DTS** and a 96K signal is received, the Casablanca III will momentarily display a message (if the **MSG** parameter is set to **ON**) indicating that it is receiving a 96K signal and [temporarily] changing the mode to **STEREO**. The user can then change this mode by using the front panel **MODE** button and selecting a different and applicable **MODE**.

Display Time

The Casablanca III's display brightness will automatically dim to ¼ if no button has been pressed for *X* minutes. The value set in the **DTIM** (Display Time) parameter under button **# 4** of the **SETUP/GLOBAL** *page 2* menu.

Serial Number

Press button **# 5** to display the serial number of this Casablanca III.

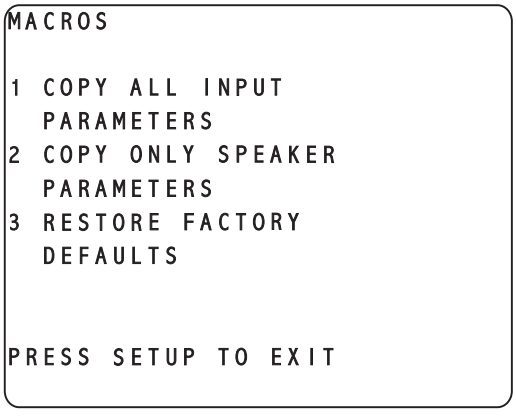
* * *

When all settings are complete in this submenu, press **SETUP** twice to return to the **INPUT SELECT** menu, once to return to the **SETUP** menu.

Macros

The Casablanca III contains several macros that allow the user to perform multiple tasks at the press of a button. To enter the Macros submenu, press **SETUP**, then **MACROS** (button **# 3**). The Macros submenu appears, as shown in figure 113.

Copy Macros



Buttons **1** and **2** are "copy" macros. **COPY ALL INPUT PARAMETERS** (button **# 1**) will allow the user to copy all **INPUT SELECT** parameters of the currently selected input to one (**ANOTHER INPUT**) or all (**ALL INPUTS**). If the user chooses another input they will then be asked to choose which one, by input select name. **INPUT SELECT** buttons **1**-**6** are displayed on the first menu, pressing **A-D** will reveal **INPUT SELECT** buttons **7**-**12**

Button **2** allows the user to copy only those input parameters focused on the speaker setups such as levels, delays, crossovers, etc.

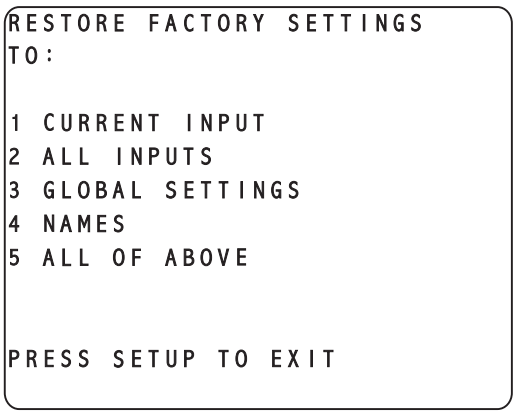
Figure 113 - Video Display of the SETUP/MACROS Submenu

Note: When copying all **INPUT** parameters to other **INPUT SELECT** buttons, the **SOURCE** (audio and video mapped jacks) settings will not be copied. In virtually all cases, the jacks mapped to a given **INPUT SELECT** button will not be desired on other **INPUT SELECT** buttons.

Please refer to page 80 for additional details regarding the Copy Macros feature.

Restore Macros

Button **# 3** allows the user to restore the factory settings in a variety of ways. The Restore menu is shown in figure 114.



In this submenu, button **# 1** allows the user to restore factory **INPUT** parameters, except input the name, to the currently selected input button.

Using button **# 2** will restore factory **INPUT** (except for input names) parameters to all 12 **INPUT SELECT** buttons.

Pressing button **# 3** will restore all factory **GLOBAL** parameter settings.

Button **# 4** will restore all factory **NAMES**. This includes jack names and **INPUT SELECT** button names for both the VFD and OSD.

Figure 114 - Video Display of the SETUP/MACROS/RESTORE FACTORY Submenu

Button **# 5** will restore all factory settings, **INPUT**, **GLOBAL** and **NAMES** to the Casablanca III.

Before any macro is executed the user will be asked "**ARE YOU SURE YOU WANT TO PERFORM THIS MACRO?**". When complete, press **OK** (**A-D** button).

Note: When restoring factory settings for an **INPUT SELECT** button that is password protected, the password will be requested, by input name.

Press **SETUP** twice to return to the first page of the **SETUP** menu, or three times to return to the main **INPUT SELECT** page.

BALANCE Function

This function allows the user to temporarily change the **FRONT**/**REAR** and **LEFT**/**RIGHT** balances, the center and subwoofer speaker levels, apply the shelf **EQ**, and adjustment of the analog input level.

The first page of the balance menu is shown in figure 115 and the second in figure 116.

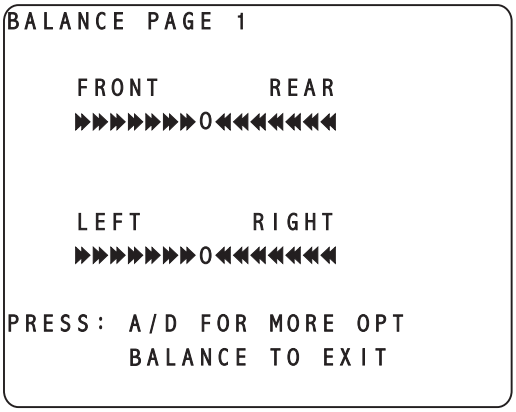


Figure 115 - Video Display of the BALANCE *Page 1* Menu

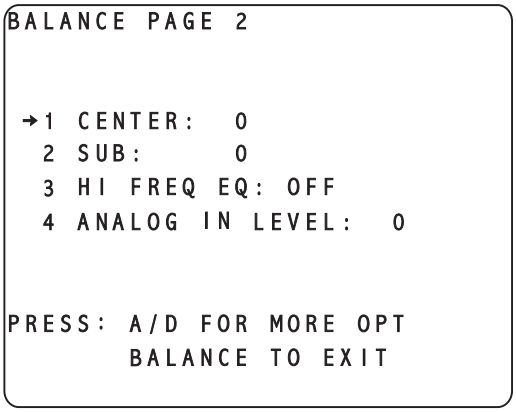


Figure 116 - Video Display of the BALANCE *Page 2* Menu

Front/Rear and Left/Right Balance

The **BALANCE** adjustments are made with reference to the relative speaker levels stored in the **SETUP**/**ACTIVE INPUT SETTINGS**/**LEVELS** submenu. **LEVEL LEFT**/**RIGHT** adjusts the Left/Right balance and **LEVEL UP**/**DOWN** adjusts the Front/Rear balance.

The parameter values in the two **BALANCE** pages are, by default, temporary. If an **INPUT SELECT** button is pressed or the unit put into standby, the changes made will revert to **0**. This feature has an override, (**CLEAR BALANCE**), which is accessed via the **SETUP/GLOBAL** submenu, button **# 4**.

Pressing the **A-D** button once will reveal the second **BALANCE** page.

Center and Sub Balance

Press button **# 1** and then use the **LEVEL UP/DOWN** buttonsto adjust the center level and button **# 2** to adjust the subwoofer level.

Shelf EQ

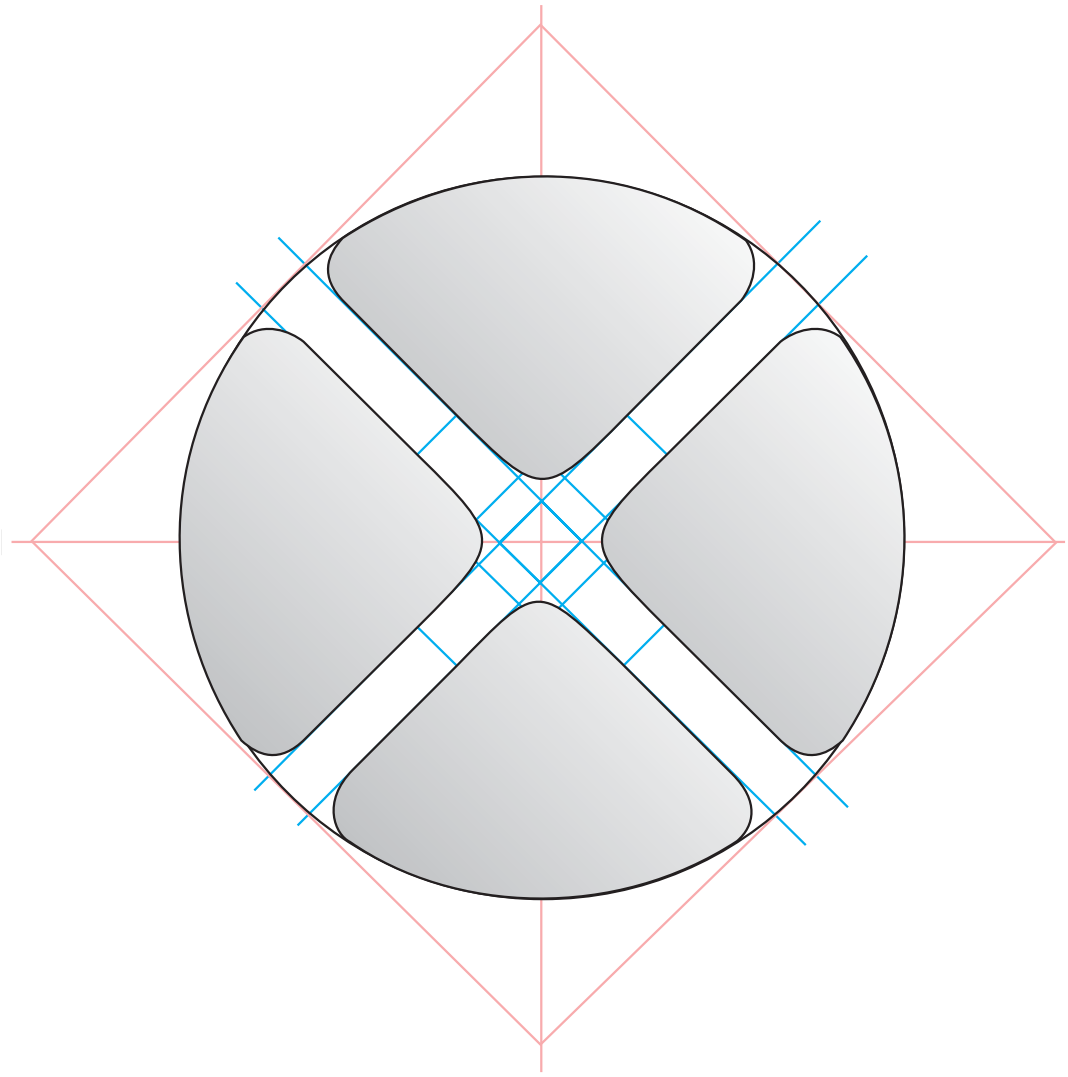
Pressing button **# 3** will allow the user to adjust the **EQ** setting between **OFF**, **1**, **2**, **3** and **4**. This is a low pass shelf EQ that, at 2KHz, drops by 1.5dB when the parameter value is set at **1**, 3dB when set at **2**, 6dB when set at **3**, and 9dB when set at **4**. The **EQ** is active in all modes and is designed to roll off excess brightness in different program material.

Analog Input Level Override

Button **# 4** lets the user adjust the analog input level of the currently selected input, relative to the stored value in the **SETUP**/**GLOBAL**/**ANALOG LEVELS** menu.

Press the **BALANCE** button once to return to the current **INPUT SELECT** menu.

APPENDIXES



Appendix A Troubleshooting Guide

If the Casablanca III should function abnormally during operation, please review the items in the following checklist. Please be sure to thoroughly check all other connected components such as speakers, amplifiers, input devices (CD/LD transport, VCR, TV, etc.) as well as cables.

Symptom	Possible Cause(s)	Remedy
Mute on permanently.	No Lock LED.	Verify valid data at selected digital input.
	No digital source connected.	Verify that source is securely connected.
No power or front panel lights and no sound.	Power cable is not inserted 100% into IEC connector.	Ensure that the AC cord is inserted all the way into the Casablanca III and that the wall outlet is active.
	Circuit breaker is open (AC outlet or Casablanca III).	Check the AC outlet circuit breaker and reset, if necessary or contact your dealer.
No "LOCK" light.	Defective or intermittent cable.	Verify that the digital cable is not defective by checking the continuity, that both ends are firmly connected. If possible, try a different cable.
	Digital source is not selected in the search order.	Toggle the A-D button until the jack name for the desired source is displayed.
	Defective source component.	Verify that the source component is functioning correctly and outputting valid digital data.
	Source component improperly connected.	Ensure that the output cable from the source component is connected to its active digital output.
No audio output.	No Lock LED.	Verify valid data at selected input.
	NOISE SEL activated with no speakers selected.	In the **SETUP**/**INPUT**/**LEVELS** submenu, verify that the **SOURCE** parameter is set to **SOURCE** (**A-D** button).
Distortion from analog input.	Clipping.	Adjust analog input level until the red clip LED goes off.
No output from a speaker.	Speaker set to **OFF** or **PHTM** (Phantom).	In the **SETUP**/**INPUT**/**CONFIG** submenu, set the speaker to an appropriate parameter for your system.
Low output from an analog source.	Analog input level set too low.	Increase analog input level as high as possible without clipping.
No Sub Woofer.	**SUB** is set to **0**.	Set the number of **SUB**s to reflect the current speaker configuration in the **SETUP**/**INPUT**/ **CONFIG** submenu.
	The currently selected **MODE** does not support sub woofers.	Review the **MODE Function** section, detailed on pages 45 – 48 to select a **MODE** that functions for both the current input signal format as well as the desired speaker or system configuration.
	No speakers are crossed over.	Ensure that one or more speakers are crossed over in the **SETUP**/**INPUT**/**CONFIG** submenu.
	The current program material does not contain an LFE track.	N/A.

Appendix B Wiring Diagrams and Speaker Placement Guides

This section provides example illustrations of various input and output wiring schemes as well as examples of speaker placement in a typical room. Before making any connections, please turn off ALL audio and video devices. Unplug those that do not have a main power switch. To avoid audible distortion and/or overall signal degradation, use high quality audio and video signals. It is recommended that all cables be kept as short as possible for best sound quality.

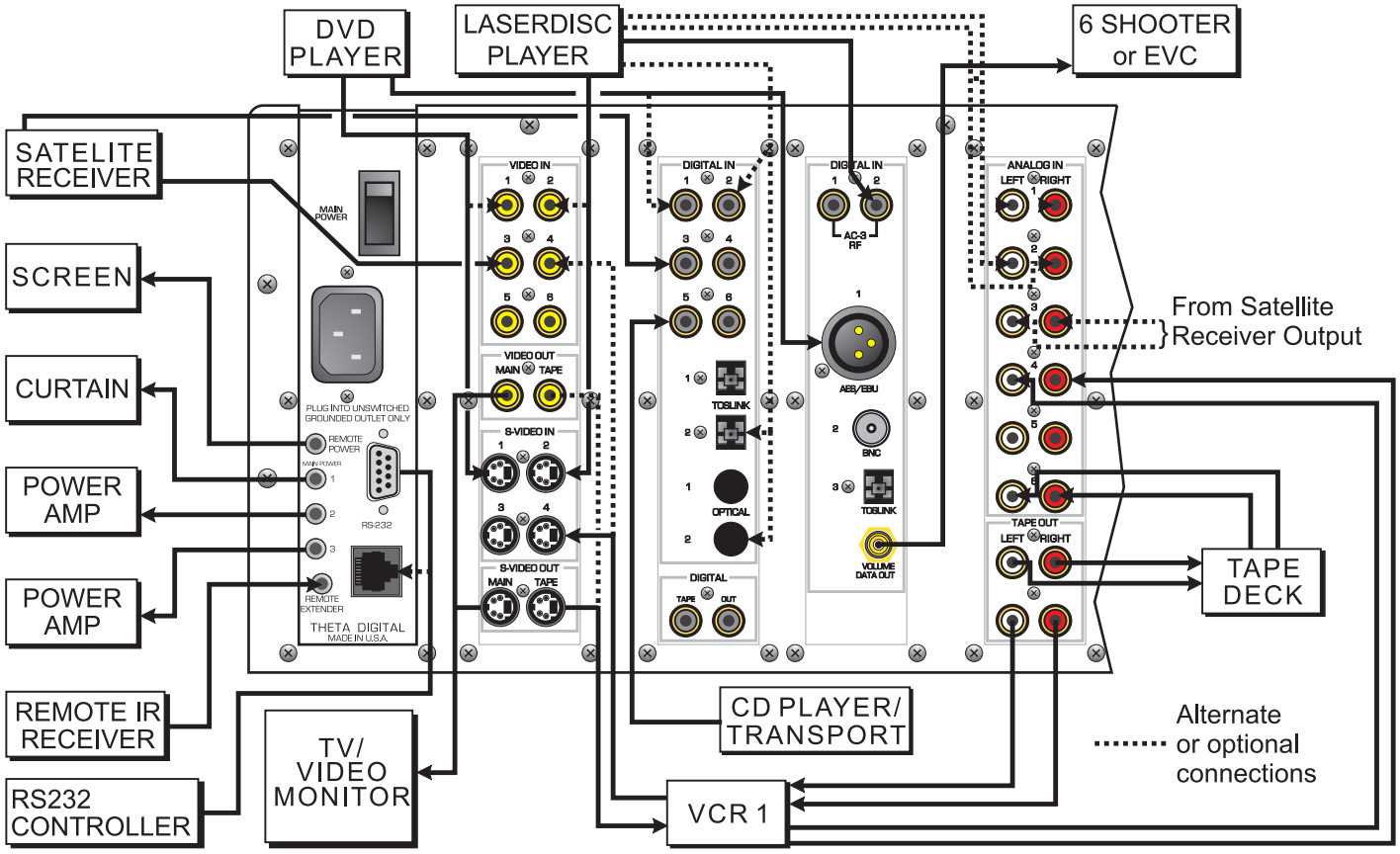


Figure 117 - Examples of Typical Input and Tape Out Connections

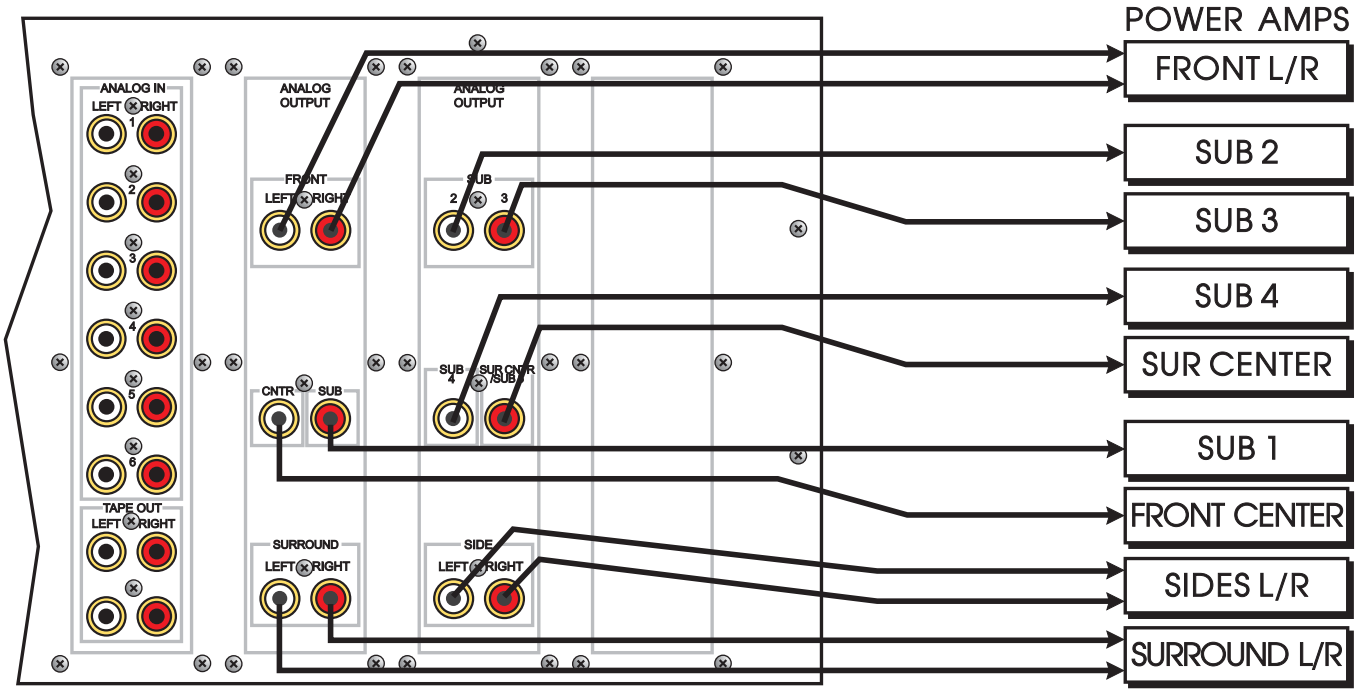


Figure 118 - Recommended Output Wiring Diagram Using 12 Single-Ended channels

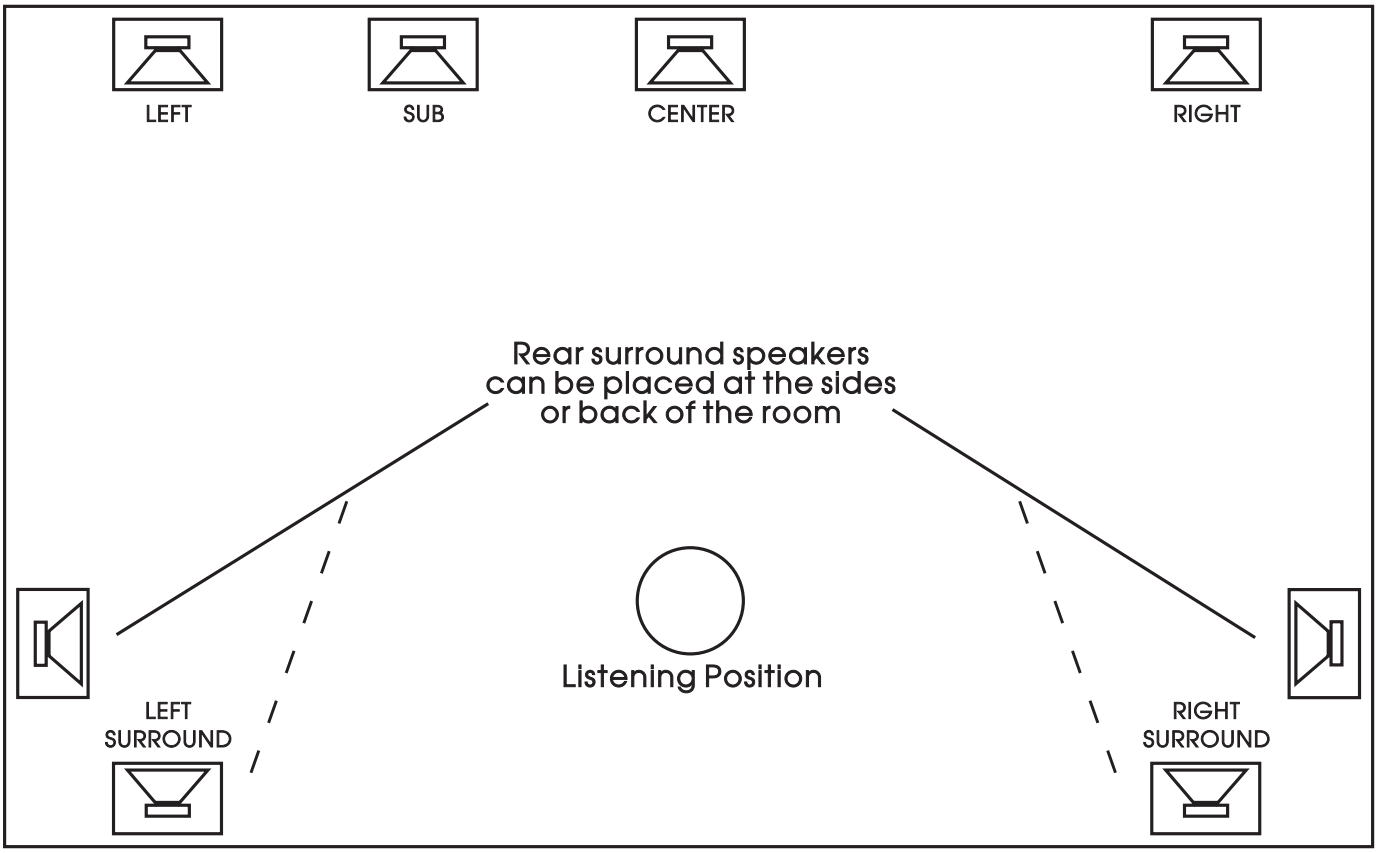


Figure 119 - Recommended Speaker Placement for Six-Channel Configuration

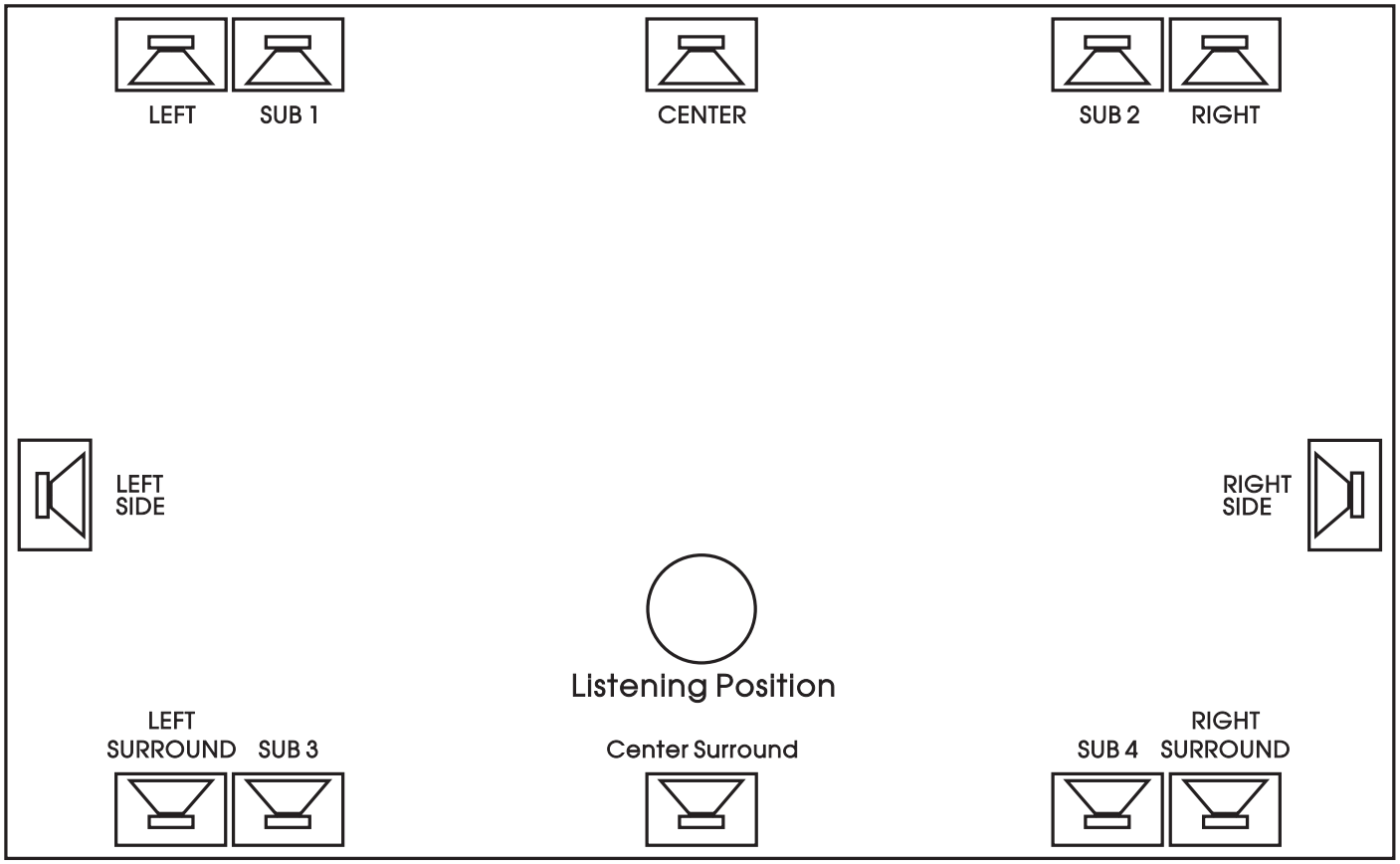


Figure 120 - Recommended Speaker Placement for Twelve-Channel Configuration

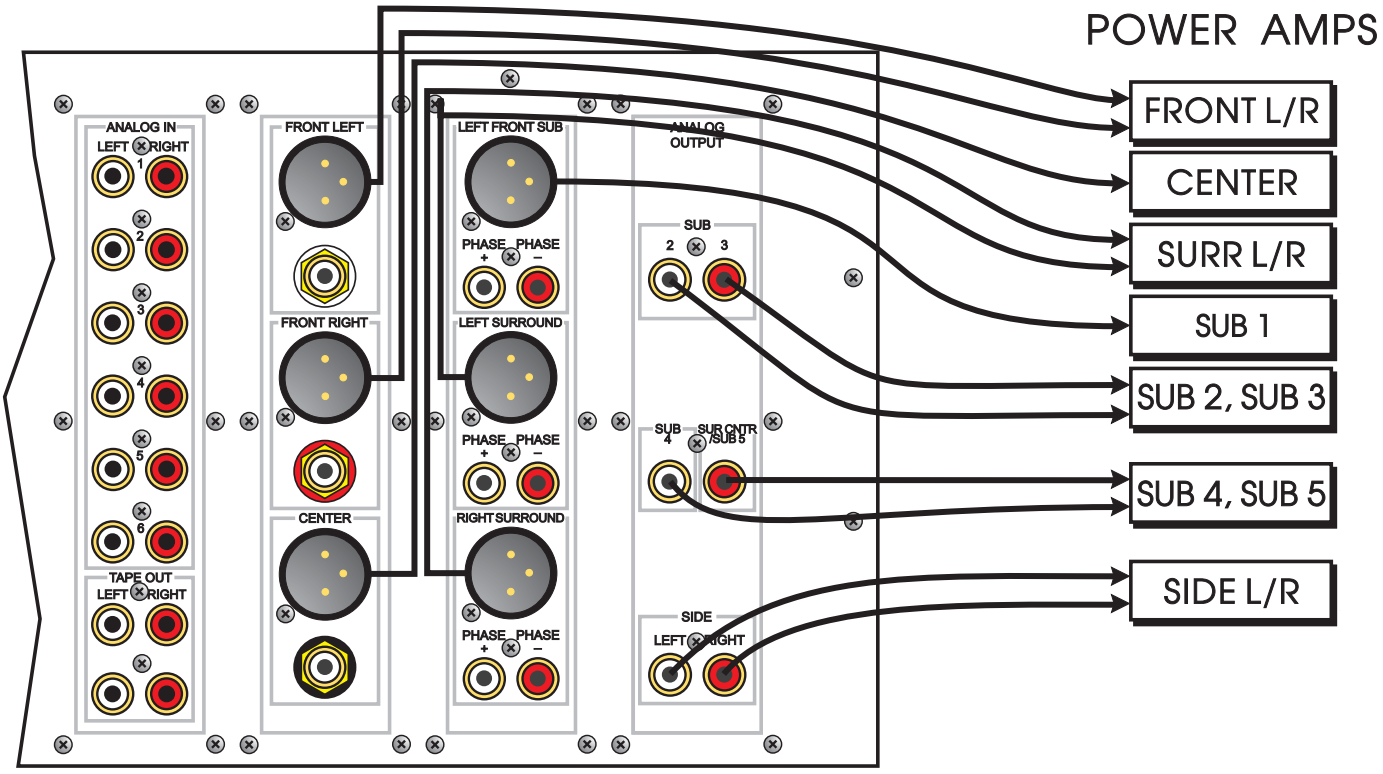


Figure 121 - Recommended Output Wiring Diagram Using 12-channels (Six Balanced and Six Single-Ended)

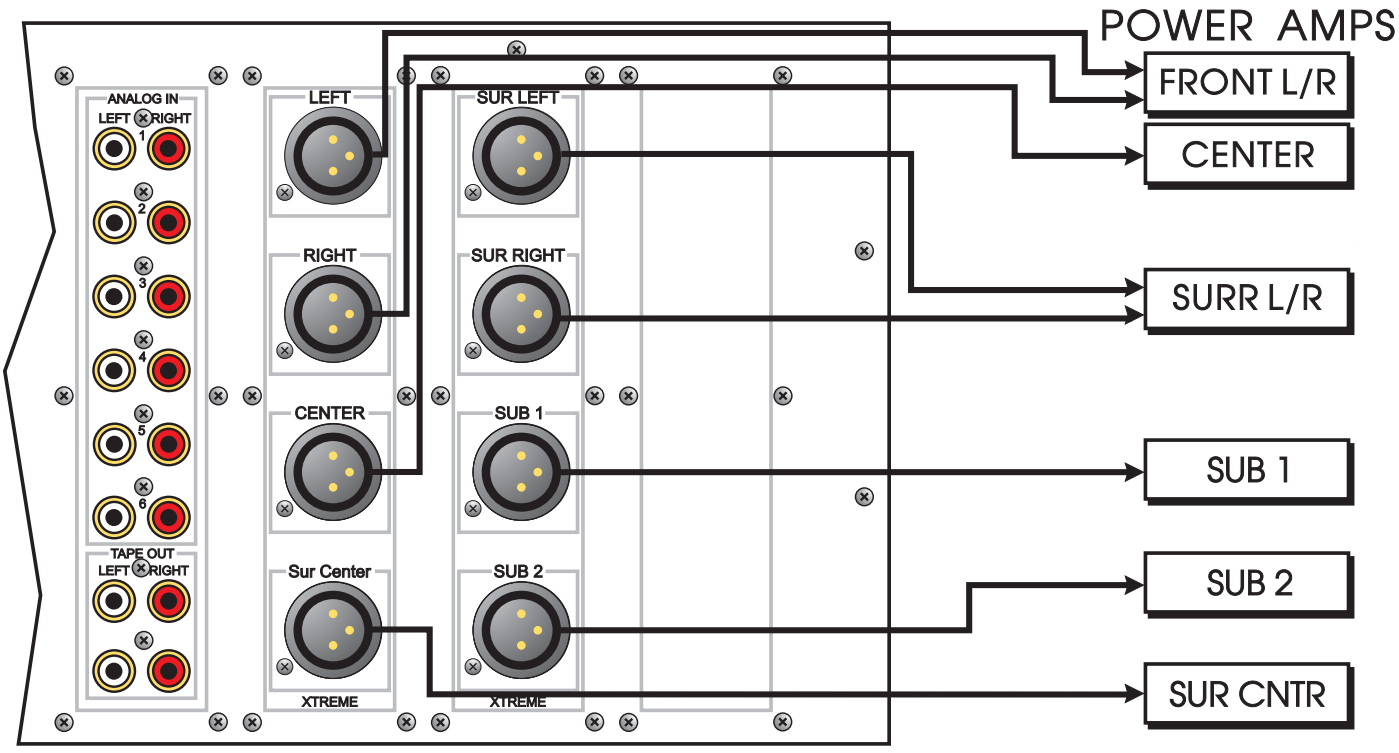


Figure 122 - Recommended Output Wiring Diagram Using 8 balanced Xtreme channels

Digital Out/External Volume Control Wiring Diagrams

With the optional Digital Output Card installed, there are no additional menu features to select from. The card can be installed in any Analog Out slot in the Casablanca III. However, if it is installed in conjunction with another D/A card that has front left and right analog outputs on it, the Digital Out card must be positioned in the Analog Out 2 or 3 slot in order for the Analog Direct and Analog Matrix modes to function.

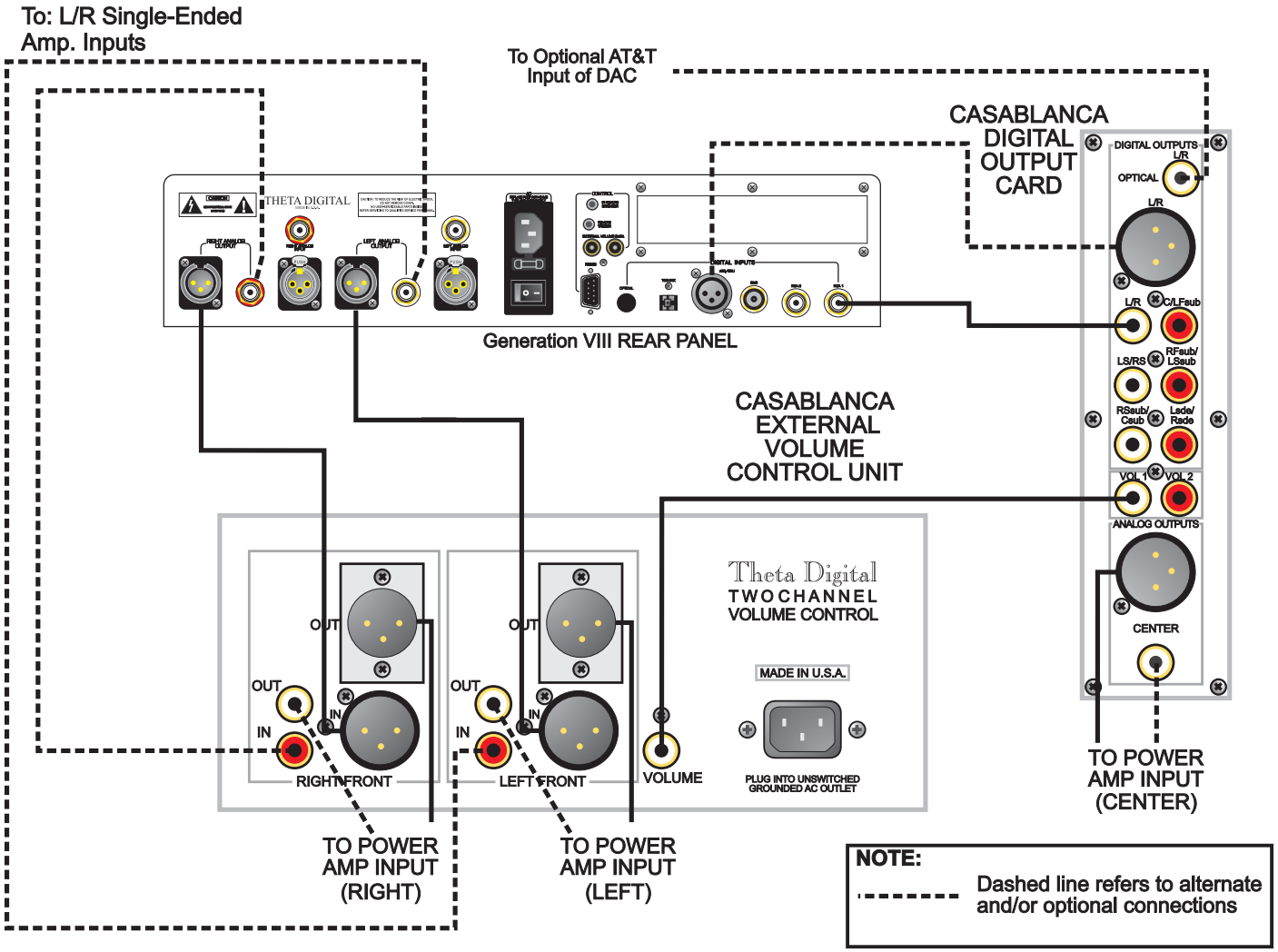


Figure 123 - Wiring diagram for the Casablanca III Digital Output board and a 2-Channel External Volume Control unit.

Connect one of the 3 **L**eft**/R**ight digital outputs to the input of a two-channel external Digital to Analog converter (DAC). If a two-channel External Volume Control (EVC) unit is being utilized, connect the left/right outputs of the DAC to the corresponding left/right inputs of the two-channel EVC. Then connect the left/right outputs of the EVC to the left/right inputs of the front [left/right] power amp inputs.

Lastly, connect the **VOL1** on the Digital output card to the **VOLUME** jack on the EVC. This allows the master volume parameter from the Casablanca III to be transmitted to the EVC, thereby controlling the volume from the DAC. All connections are shown in Figure 123, above.

Figure 115 shows the wiring diagram using one 6-channel EVC. If two EVCs are being used, connect the VOL2 on the digital output card to the VOLUME jack on the second EVC. The second EVC must be configured to respond to channels 7-12. This will be done at the factory. Connect the second EVC to the appropriate channels (Surround Center/Side Left/Side Right/Sub 1-4) of the digital out card as was done with the first EVC.

In the case where the Digital Output card has the optional analog center channel output installed, connect this output directly into the center channel power amp input.

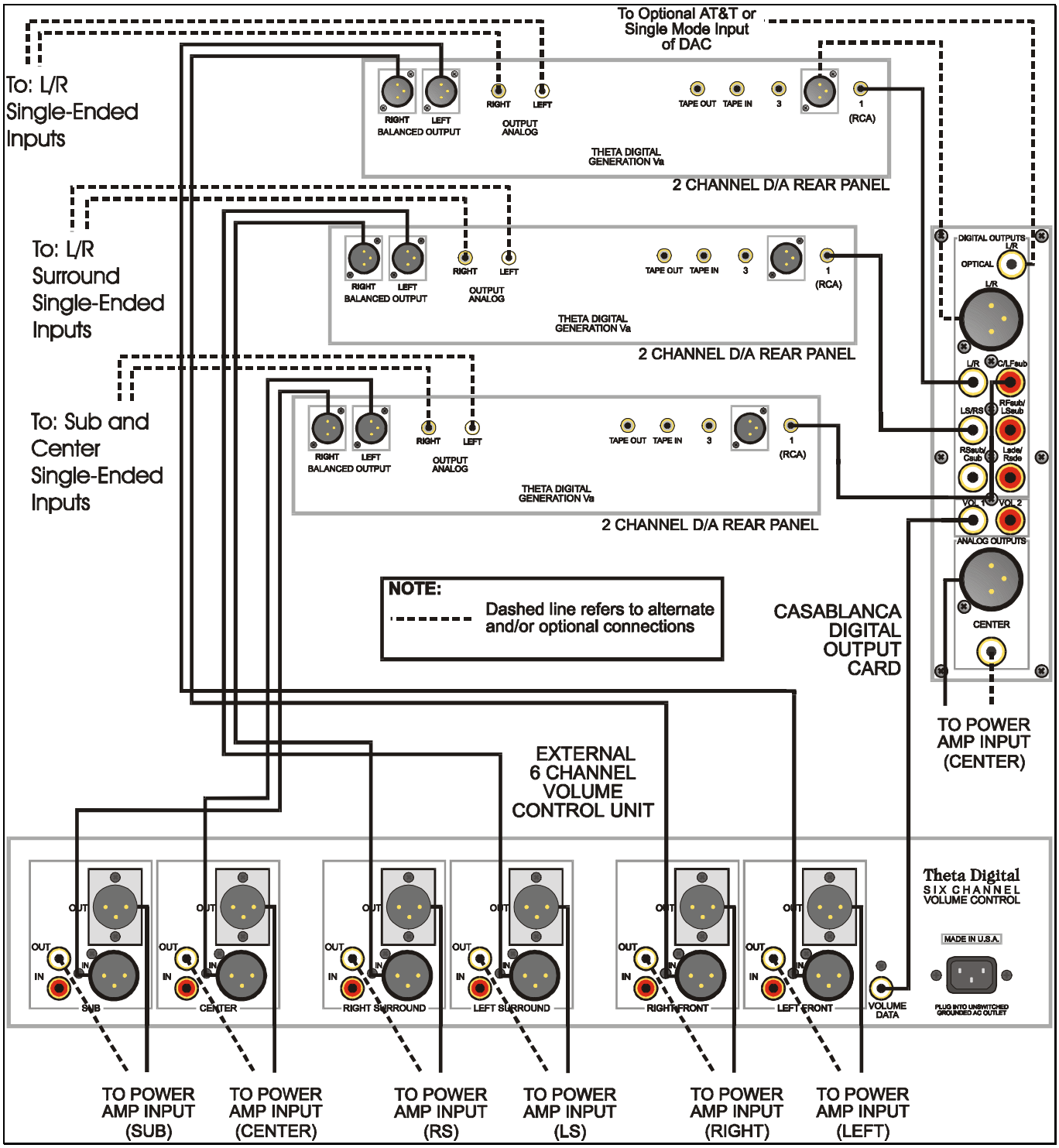


Figure 124 - Wiring diagram for the Casablanca III Digital Output board and a 6-Channel External Volume Control unit.

Six Shooter Wiring Diagram

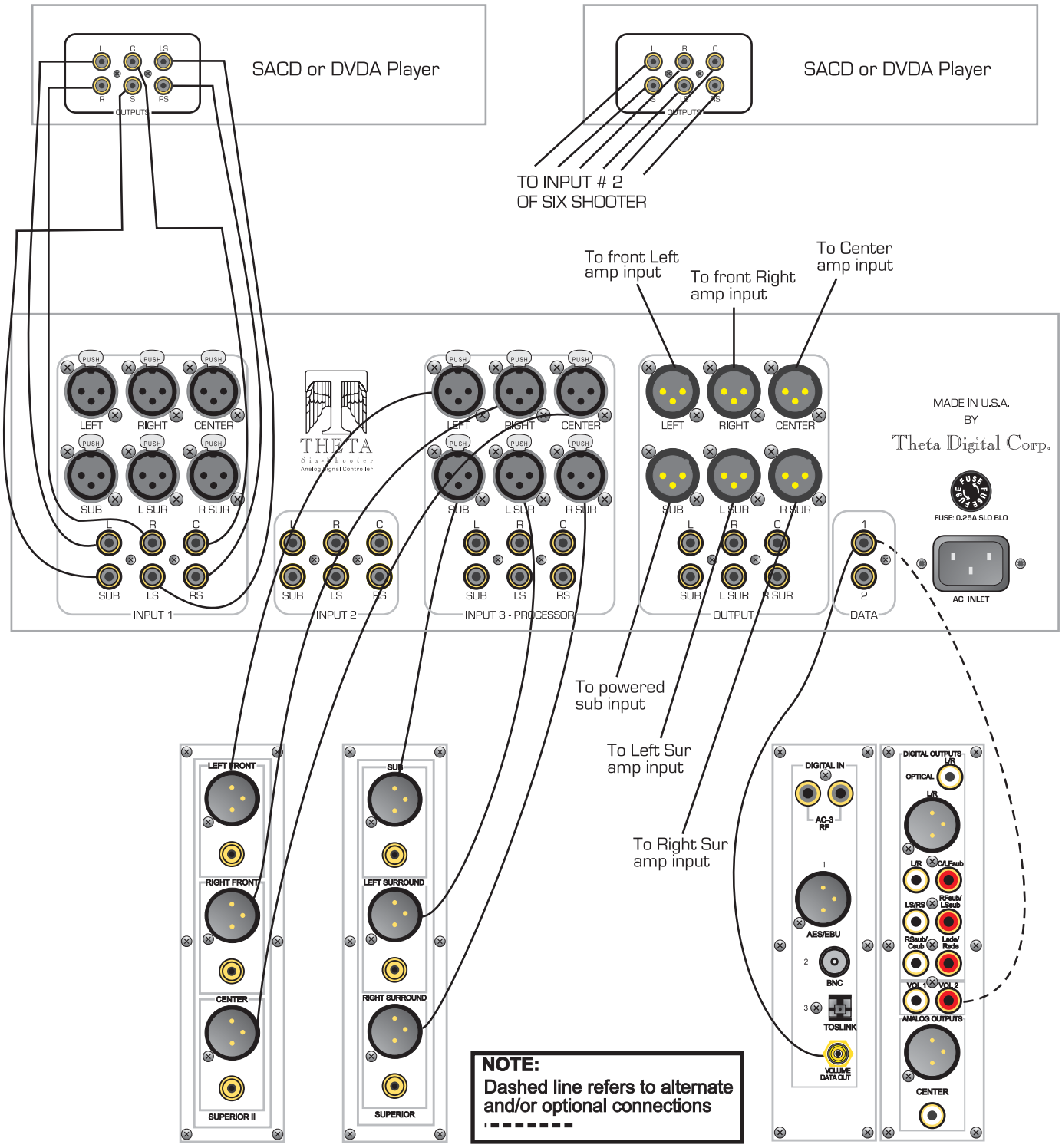


Figure 125 - Wiring diagram for the optional Six Shooter

Appendix C Remote Extender Jack Technical Description and Protocol

The remote extender jack on the Casablanca III rear panel serves as a direct electrical pathway to the input section of the main microcontroller. Using this jack eliminates the need to attach an IR transmitting device to the front panel IR receiver. This input requires a demodulated signal. **

Remote system: Phillips RC5
System address: 10 hex (00010000 binary) (5 bit system address)

6 bit button code:

Button	Code (hex)	Code (binary)
1	01	00000001
2	02	00000010
3	03	00000011
4	04	00000100
5	05	00000101
6	06	00000110
A/D	07	00000111
MUTE	08	00001000
MODE	09	00001001
TAPE OUT	0A	00001010
SET-UP	0B	00001011
BALANCE	0C	00001100
DISP	0D	00001101
PWR	0E	00001110
UP	0F	00001111
DOWN	10	00010000
REM PWR	11	00010001
STAT	12	00010010
LEFT	13	00010011
RIGHT	14	00010100
PHASE	15	00010101
SEL UP	16	00010110
SEL DOWN	17	00010111
EQ	18	00011000
Discrete OFF	19	00011001
Discrete ON	1A	00011010

Electrical Requirements:

Jack: 3.5mm stereo mini-phone
Tip: 12v current limited dc supply from Casablanca III (for phantom power)
Ring: Signal, 0-5 v peak-to-peak. (Is pulled high in Casablanca III)
Sleeve: Ground

* * *

**There are companies who manufacture units that strip the IR carrier from a signal. One such company is Xantech, who makes the model 794-10. If this unit is used, a series of dipswitches need to be set on it. These settings are as follows:

(from switch 1 to 10)

1 0 1 1 0 0 0 1 0 1

where 1 = ON and 0 = OFF

Appendix D Upgrading/Re-installing Casablanca III Software

The most dynamic parts of Casablanca III's internal operating system and supporting files are stored in flash memory and are therefore easily updateable via an IBM compatible PC.

To install new software into the Casablanca III, first the "Downloader" software must be installed on a local PC.

Instructions for this installation are included with the CD ROM. This software is referred to as Theta Digital Downloader (TDD) x.xx, where x.xx is the version number. The latest version of TDD as well as the latest CB3 Flash files themselves are available from Theta Digital, through a Theta Digital authorized dealer or on the Theta website (www.thetadigital.com).

When TDD "connects", it will take over control of the Casablanca III. When updating it will read and store the internal hardware configuration and user settings and then update and/or overwrite the flash files on every board. It will then restore the hardware configuration parameters that were set at the factory as well as the user settings.

TDD can also save all user settings to the hard drive of a PC. This is a highly recommended procedure to do, immediately after setting up the Casablanca III for the first time.

When TDD is installed onto the PC, a PDF file entitled "Guide to Using TDD" is copied to the hard drive. This document covers the detailed information required to use TDD in all of its modes. It is recommended that this document be read through in its entirety before using TDD.

Appendix E Specifications

Digital Input Section (32KHz, 44.1KHz, 48KHz, 88.2KHz, 96KHz compatible):

Main digital input board:
Inputs: 10:6 coaxial (RCA), 4 optical (2 TosLink, 2 open for optional AT&T).
Outputs: 2 digital tape out coaxial on RCA jacks.

Auxiliary Digital Input board:
Inputs: 5: 2 AC-3 RF (RCA) for laserdisc Dolby Digital, 1 AES/EBU (XLR), 1 BNC, 1 TosLink.
Outputs: Volume Data.

Analog Input Section:

Inputs:	6 stereo pair on RCA jacks.
Input Level:	200 mV rms minimum, 22v rms maximum.
Input Impedance:	10 KΩ.
Outputs:	2 stereo pair on RCA jacks for analog tape out.
Tape Output Impedance:	36.5 ohms
A/D Conversion:	20-bit Delta-Sigma at 48KHz; separate delta-sigma modulator and high performance decimating digital filter.
Frequency response:	+-.2dB 20Hz - 20KHz
THD+Noise:	0.0025%
Dynamic Range:	104dB
Signal to Noise Ratio:	104dB
Input volume control:	Theta proprietary switched resistor network in the analog domain.

Automatic DC canceling circuit.

Processing (DSP) Section:

All DSP processing is 24bit with 56 bit accumulator. Some processes, such as low pass crossovers, are 48bit with 56 bit results.

Channels Supported: Left, Right, Center, Left Surround, Right Surround, Center Surround, Left Front Sub, Right Front Sub, Left Surround Sub, Right surround Sub, Center Sub, Left Side, Right Side.

Modes: Matrix, Special Matrix, Dolby Pro Logic, Dolby Digital, DTS, Stereo, Mono, Analog Direct, Analog Matrix, Circle Surround (optional).

Post Processes (applied in addition to selected mode): Stereo Front/Rear, Party, Center Spread.

EQ: Four levels of high frequency roll-off (shelf-type) to compensate for overly bright sources.

Crossovers: Separate crossovers for each of the following: Front Left/Right, Front Center, Surround Left/Right, Surround Center. Three types supported: Linkwitz-Riley, Butterworth, Phase Perfect. Crossover frequencies: 40Hz, 50Hz, 63Hz, 80Hz, 125Hz, 160Hz. Crossover slopes: 6dB, 12dB, 18dB, 24dB per octave. Butterworth crossovers have separate adjustments for high and low pass.

Subwoofers: Up to five subwoofers supported. 1- single subwoofer, 2- left/right subwoofers, 2- front/rear subwoofers, 3- left/right/surround subwoofers, 4- left/right/surround left/surround right subwoofers, 5- left/center/right/surround left/surround right subwoofers. Each subwoofer can be set to receive a full range signal in case the sub has an internal crossover that cannot be defeated.

LFE: Phase adjustment (0, 180 degrees), level adjustment (0dB to -30dB, off)

Delays: Master (applies to all channels) delay for syncing with video processors, comprehensive separate delay settings for all speakers including subwoofers.

Analog Audio Outputs: See additional pages.

Control Section:

RS232: Complete ability to control and read status of every operational parameter of unit.
IR Receiver: 3.5mm stereo phone jack (rear panel), unmodulated.
IR Receiver: Front panel IR window for hand-held remote control.
Remote Power: 4 rear panel 3.5mm mono phone jacks: +12VDC triggered (Can be set to Pulse or Continuous DC), pulse time variable from 0 to 255 mSec. Up to 100mA each. See page 77 for more detail.

Video Section (three options available):

6 composite / 4 S-Video option:

Composite Inputs: 6 (RCA jacks).
Composite Outputs: 1 main and 1 tape (RCA jacks).
S-Video Inputs: 4.
S-Video Outputs: 1 main and 1 tape.

On-screen display on main outputs (composite and S-video). On-screen display character generator completely bypassed when not in use for maximum fidelity.

8 S-Video option:

S-Video Inputs: 8.
S-Video Outputs: 2 main and 2 tape.

On-screen display on main outputs. On-screen display character generator completely bypassed when not in use for maximum fidelity.

3 Multi Format / 6 S-Video option:

High Resolution Multi Format Inputs: 3 (15 pin D type connectors).
High Resolution Multi Format Outputs: 1 Main (on 15 pin D type connector).
S-Video Inputs: 6.
S-Video Outputs: 1 main and 1 tape.

On-screen display on S-Video main output only. On-screen display character generator completely bypassed when not in use for maximum fidelity.

Multi Format I/O:

-Any 3, 4, or 5 Wire Component (480i or 480p).
-HDTV (Y, Pb, Pr) (for 720p or 1080i).
- Any 3, 4, or 5 Wire RGB Output from a Video Processor / Scaler or Computer RGsB, RGB/S, RGB/H&V.
- Input Signal Types Can Be Mixed, as Long as the Display or Processor Will Accept Mixed Formats from the Switched Output, on 1 Input.
-NO On Screen Display.
-Connectors are High Density 15 Pin D Sub (HD15) Connectors (like VGA Monitor/ Computer Connectors).
-Cables should have a bandwidth capacity of 400MHz or greater for the highest resolution.

* * *

Power Requirements: 117 VAC, 50-60 Hz, 120 watts with all options installed.

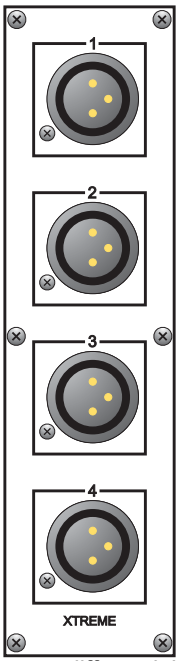
Dimensions: 19”W x 16”D x 7.5”H (483 x 406 x 191 mm)

Weight: 43 Lbs (19.5 Kg) Stand alone, 50 Lbs (22.7 Kg) Boxed with accessories

Environment:
Operating Temperature: 32 to 95 F (0 to 35 C)
Storage Temperature: -22 to 167 F (-30 to 75 C)
Relative Humidity: 95% maximum without condensation

Remote Control: 1 hand-held, battery powered control unit uses 2 AAA batteries

Xtreme Quality Balanced D/A Output Card



Output Options:

Slot 1-3: (One of the following, each):

Front Left, Right, Center, Surround Center or Sub 5.
Front Left, Right, Side Left, Right
Sub 1, Sub 2, Sub 3, Sub 4
Side Left, Right, Sub 3, Sub 4
Front Left, Right, Sub 1, Sub 2
Surround Left, Right, Sub 1, Sub 2
Surround Left, Right, Sub 2, Sub 3
Front Center, Sub 1, Sub 2, Sub 3
Front Center, Sub 1, Surround Left, Right
Front Left, Right, Surround Left, Right
Surround Left, Right, Side Left, Right
Front Left, Right, Center, Sub 1
Sub 1, Sub 2, Sub 3, Surround Center or Sub 5
Surround Left, Right, Center or Sub 5, Sub 1
Surround Left, Right, Center or Sub 5, Sub 2
Front Center, Surround Center or Sub 5, Surround Left, Right
Front Center, Surround Center or Sub 5, Side Left, Right
Sub 2, Sub 3, Sub 4, Surround Center or Sub 5
Front Left, Right, Center, Sub 4
Front Left, Right, Center, Sub 3
Front Left, Right, Center, Sub 2
Side Left, Right, Sub 2, Sub 3
Sub 2, Surround Center or Sub 5, Side Left, Right
Front Center, Surround Left, Right, Sub 2
Front Center, Side Left, Right, Sub 2

Each output channel has a balanced (XLR) output connector only.

D/A Conversion: 24-bit Ladder (8x oversampling – 4x @96K). Two DACs per channel (8 per board) for true differential operation.

Volume Control: Theta proprietary switched resistor network in the analog domain.

Digital Filter: 8x oversampling (4x @ 96K) Theta proprietary FIR filter running on Motorola 56362 DSP.

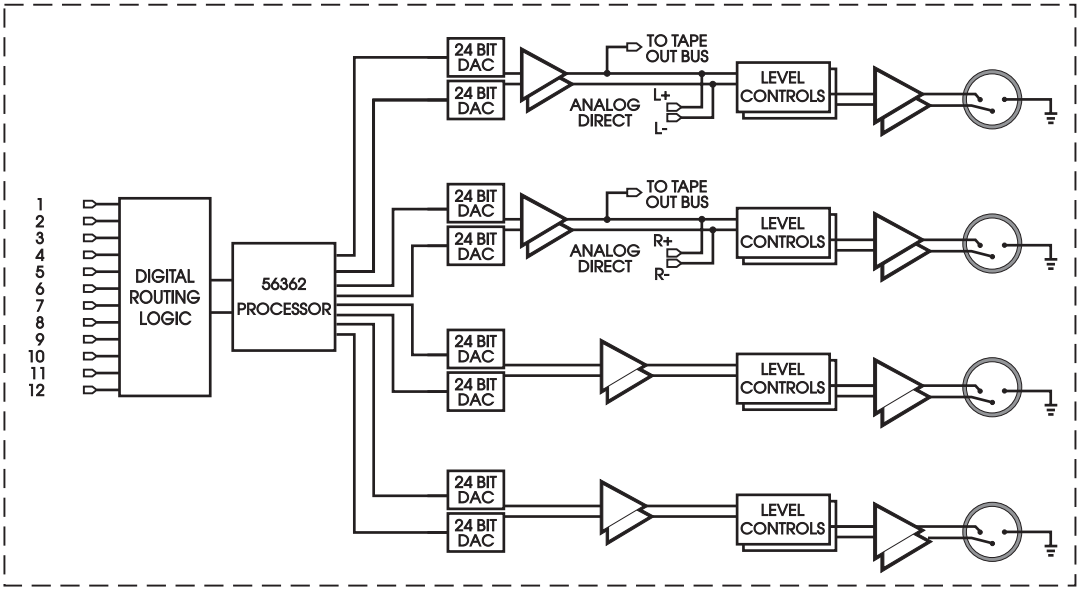
Single-Ended Output: None

Sample Rates Supported: 32KHz, 44.1 KHz, 48 KHz, 88.1 KHz, 96 KHz.

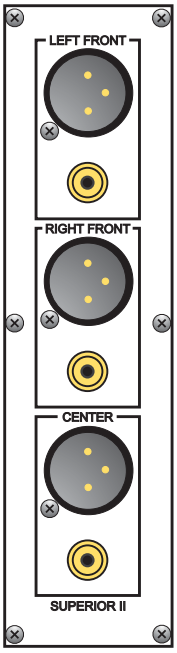
Balanced Output Specifications:

Output Impedance:	20 Ohms.
Maximum Output Level:	20 Vrms balanced.
Frequency Response:	20 Hz-20 kHz, ± 0.025 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0015% @ 1KHz, maximum output level.
Dynamic Range:	105dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	105dB typical, idle channel, A-weighted.
Crosstalk:	-105dB Right - Left, >-120dB Center-Left @ 20KHz.

Block Diagram:



Superior II Balanced D/A Output Card



Output Options:

Front Left/Right/Center.	Sub 2/Sub 3/Surround Center.
Front Left/Right/Sub1.	Surround Center/Side Left/Right.
Sub 1/Surround Left/ Right.	Sub 2/Side Left/Right.
Sub 2/Surround Left/ Right.	Surround Center/Surround Left/ Right.
Sub 2/Sub 3/Sub 4.	Front Center/Surround Left/Right.

Each output channel has a balanced (XLR) and a single-ended (RCA) output connector.

D/A Conversion: 24-bit Ladder (8X oversampling - 4x oversampling for 96KHz sources). Two DACs per channel (6 per board) for true differential operation.

Volume Control: Theta proprietary switched resistor network in the analog domain.

Digital Filter: Theta proprietary FIR filter running on Motorola 56362 DSP.

Single-Ended Output: Summed from balanced signals, retains many of the advantages of the balanced output.

Sample Rates Supported: 32KHz, 44.1 KHz, 48 KHz, 88.1 KHz, 96 KHz.

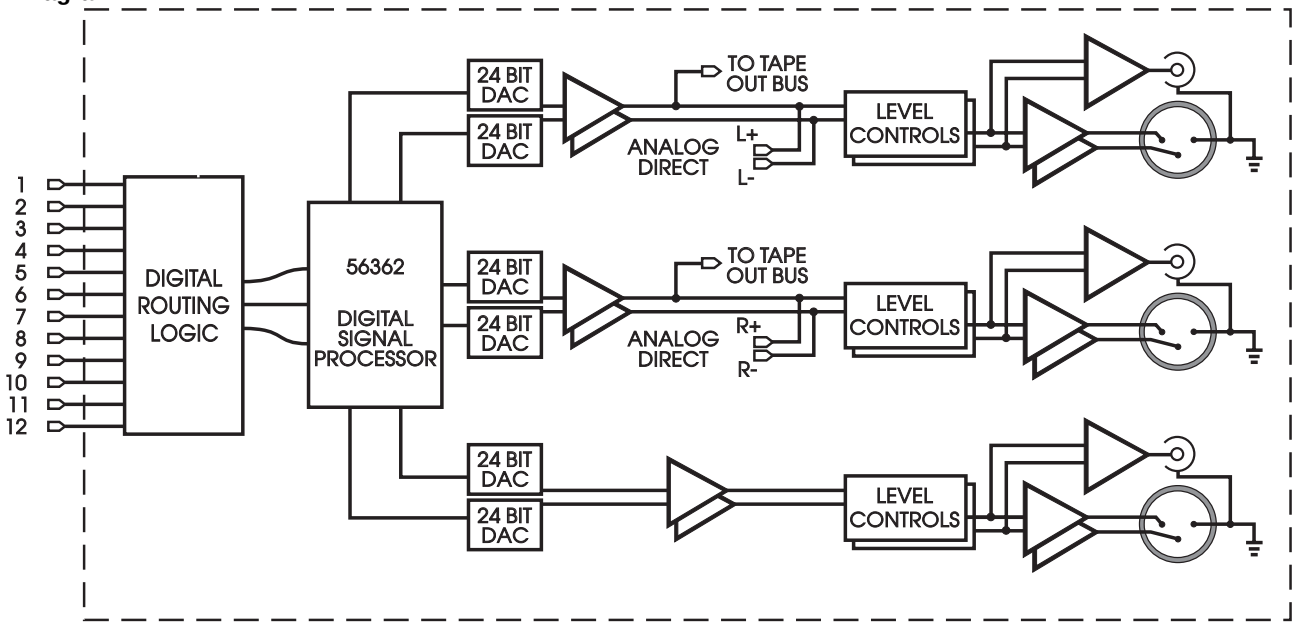
Balanced Output Specifications:

Output Impedance:	20 Ohms.
Maximum Output Level:	20 Vrms.
Frequency Response:	20 Hz-20 kHz, ± 0.01 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0016% @ 1KHz, maximum output level.
Dynamic Range:	105dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	105dB typical, idle channel, A-weighted.
Crosstalk:	-90dB Right - Left, -120dB Center-Left @ 20KHz.

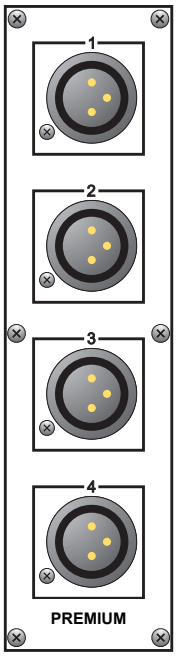
Single-Ended Output Specifications:

Output Impedance:	10 Ohms
Maximum Output Level:	10 Vrms
Frequency Response:	20 Hz-20 kHz, ± 0.01 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0016% @ 1KHz, maximum output level.
Dynamic Range:	105dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	105 typical, idle channel, A-weighted.
Crosstalk:	-90dB Right - Left, -120dB Center-Left @ 20KHz

Block Diagram:



Premium Quality Balanced D/A Output Card



Output Options:

Slot 1-3: (One of the following, each):

Front Left, Right, Center, Surround Center or Sub 5.
Front Left, Right, Side Left, Right
Sub 1, Sub 2, Sub 3, Sub 4
Side Left, Right, Sub 3, Sub 4
Front Left, Right, Sub 1, Sub 2
Surround Left, Right, Sub 1, Sub 2
Surround Left, Right, Sub 2, Sub 3
Front Center, Sub 1, Sub 2, Sub 3
Front Center, Sub 1, Surround Left, Right
Front Left, Right, Surround Left, Right
Surround Left, Right, Side Left, Right
Front Left, Right, Center, Sub 1
Sub 1, Sub 2, Sub 3, Surround Center or Sub 5
Surround Left, Right, Center or Sub 5, Sub 1
Surround Left, Right, Center or Sub 5, Sub 2
Front Center, Surround Center or Sub 5, Surround Left, Right
Front Center, Surround Center or Sub 5, Side Left, Right
Sub 2, Sub 3, Sub 4, Surround Center or Sub 5
Front Left, Right, Center, Sub 4
Front Left, Right, Center, Sub 3
Front Left, Right, Center, Sub 2
Side Left, Right, Sub 2, Sub 3
Sub 2, Surround Center or Sub 5, Side Left, Right
Front Center, Surround Left, Right, Sub 2
Front Center, Side Left, Right, Sub 2

Each output channel has a balanced (XLR) output connector only.

D/A Conversion: 24-bit Ladder (8x oversampling – 4x @96K). Two DACs per channel (8 per board) for true differential operation.

Volume Control: Theta proprietary switched resistor network in the analog domain.

Digital Filter: 8x digital interpolation followed by 64x delta-sigma modulator

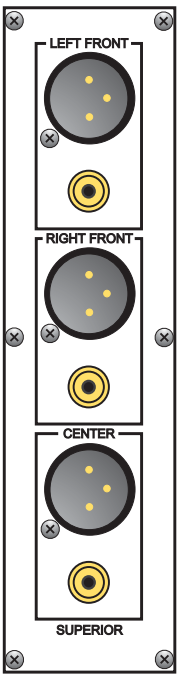
Single-Ended Output: None

Sample Rates Supported: 32KHz, 44.1 KHz, 48 KHz, 88.1 KHz, 96 KHz, 176 KHz, 192 KHz.

Balanced Output Specifications:

Output Impedance: 50 Ohms.
Maximum Output Level: 20 Vrms balanced.
Frequency Response: 20 Hz-20 kHz, ± 0.025 dB, Ref. 1KHz.
THD+Noise: Less than 0.0015% @ 1KHz, maximum output level.
Dynamic Range: 105dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio: 105dB typical, idle channel, A-weighted.
Crosstalk: > 110dB channel to channel @ 20KHz.

Superior Quality Balanced D/A Output Card



Output Options:

Slot 1: Front Left, Front Right, Center.
Slot 1: Front Left, Front Right, Sub 1.
Slot 2: Sub 1, Surround Left, Surround Right.
Slot 2: Center, Surround Left, Surround Right.
Slot 3: Sub 2, Sub 3, Sub 4.
Slot 3: Sub 2, Sub 3, Surround Center.

Each output channel has a balanced (XLR) and a single-ended (RCA) output connector.

D/A Conversion: 20-bit Ladder (8X oversampling). Two DACs per channel (6 per board) for true differential operation.

Volume Control: Theta proprietary switched resistor network in the analog domain.

Digital Filter: 8x oversampling Theta proprietary FIR filter running on Motorola 56004 DSP (1 per channel, 3 per board). 4x oversampling for 96KHz sources.

Single-Ended Output: Summed from balanced signals, retains many of the advantages of the balanced output.

Sample Rates Supported: 32KHz, 44.1 KHz, 48 KHz, 88.1 KHz, 96 KHz.

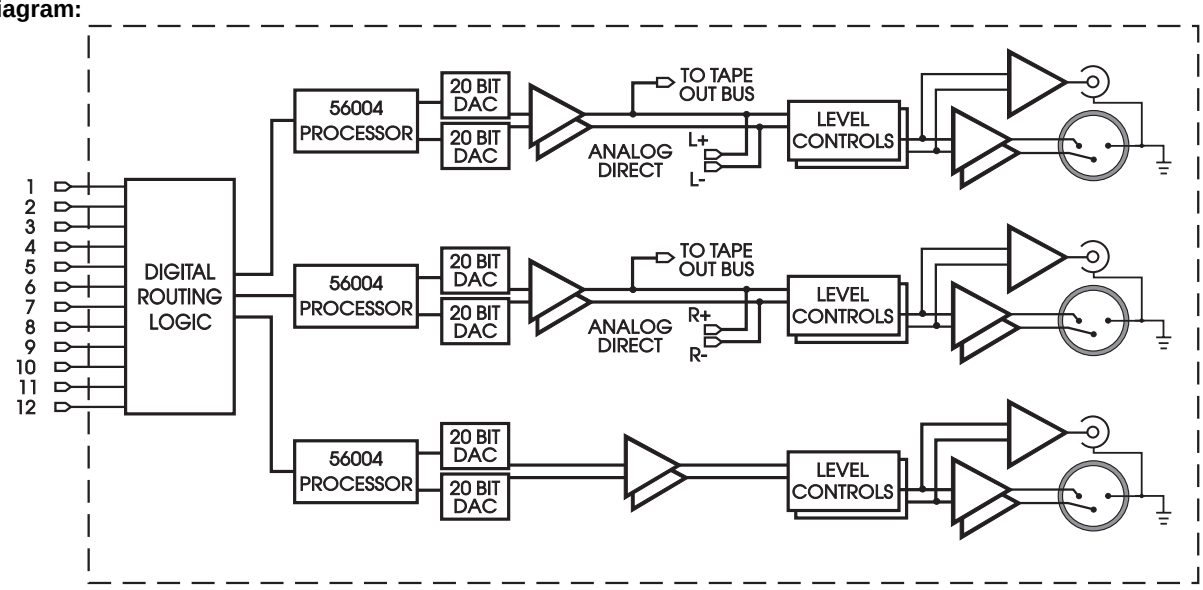
Balanced Output Specifications:

Output Impedance:	20 Ohms.
Maximum Output Level:	20 Vrms.
Frequency Response:	20 Hz-20 kHz, ± 0.01 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0016% @ 1KHz, maximum output level.
Dynamic Range:	105dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	105dB typical, idle channel, A-weighted.
Crosstalk:	-90dB Right - Left, -120dB Center-Left @ 20KHz.

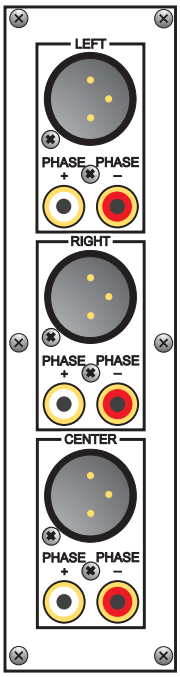
Single-Ended Output Specifications:

Output Impedance:	10 Ohms
Maximum Output Level:	10 Vrms
Frequency Response:	20 Hz-20 kHz, ± 0.01 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0016% @ 1KHz, maximum output level.
Dynamic Range:	105dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	105 typical, idle channel, A-weighted.
Crosstalk:	-90dB Right - Left, -120dB Center-Left @ 20KHz

Block Diagram:



Standard Quality Balanced D/A Output Card



Output Options:

Slot 1: Front Left, Front Right, Center.
Slot 2: Sub 1, Surround Left, Surround Right.
Slot 2: Sub 2, Surround Left, Surround Right.
Slot 2: Surround Center, Surround Left, Surround Right.
Slot 3: Sub 2, Sub 3, Sub 4.
Slot 3: Sub 2, Sub 3, Surround Center.
Slot 3: Sub 3, Sub 4, Surround Center.
Slot 3: Surround Center, Side Left, Side Right.

Each output channel has a balanced output as well as 2 single-ended (RCA) output connectors. (+ and -)

D/A Conversion: 18 bit Delta-Sigma, one stereo DAC per channel producing plus and minus phases. There are 3 stereo DACs per board.

Digital Filter: 8x digital interpolation filter followed by a 64x delta-sigma modulator.

Volume Control: I.C. based, in the analog domain.

Single-Ended Outputs: One phase of balanced outputs, not summed.

Sample Rates Supported: 32KHz, 44.1 KHz, 48 KHz.

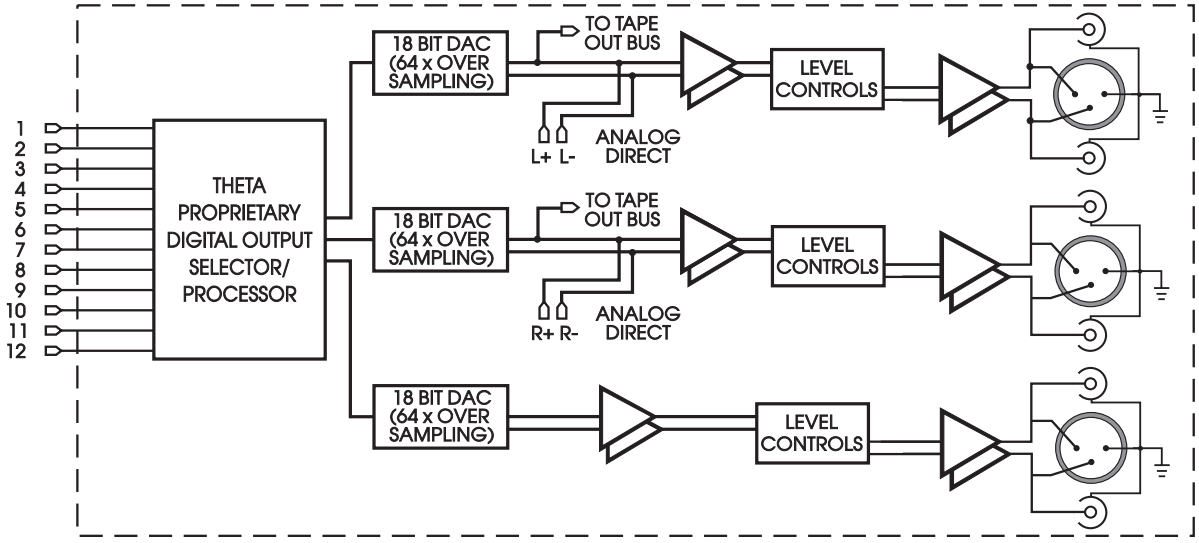
Balanced Output Specifications:

Output Impedance:	73 Ohms
Maximum Output Level:	20 Vrms
Frequency Response:	20 Hz-20 kHz, ± 0.2 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0032% @ 1KHz, maximum output level.
Dynamic Range:	98dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	98dB typical, idle channel, A-weighted.
Crosstalk:	-110dB Right - Left, -120dB Center-Left @ 20KHz

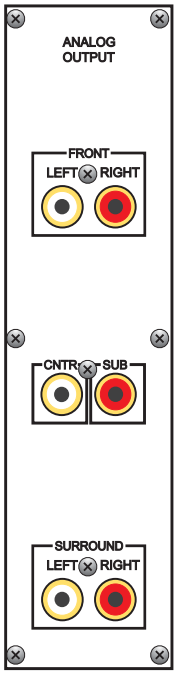
Single-Ended Output Specifications:

Output Impedance:	36.5 Ohms
Maximum Output Level:	10 Vrms
Frequency Response:	20 Hz-20 kHz, ± 0.2 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0040% @ 1KHz, maximum output level.
Dynamic Range:	95dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	95dB typical, idle channel, A-weighted.
Crosstalk:	-110dB Right - Left, -120dB Center-Left @ 20KHz

Block Diagram:



Standard Quality 6-Channel Single-Ended D/A Output Card



Outputs:

Each single-ended DAC card can be assigned one of the following output configurations:

-Front Left, Front Right, Front Center, Surround Left, Surround Right, Sub 1.
-Side Left, Side Right, Sub 2, Sub 3, Sub 4, Sub 5.
-Side Left, Side Right, Surround Center, Sub 2, Sub 3, Sub 4.
-Surround Left, Surround Right, Sub 1, Sub 2, Sub 3, Sub 4.
-Surround Left, Surround Right, Surround Center, Side Left, Side Right, Sub 1.
-Surround left, Surround right, Side left, Side right, Sub 1, Sub 2.

D/A Conversion: 18 bit Delta-Sigma, one stereo DAC per channel producing plus and minus phases. There are 3 stereo DACs per board.

Digital Filter: 8x digital interpolation filter followed by a 64x delta-sigma modulator.

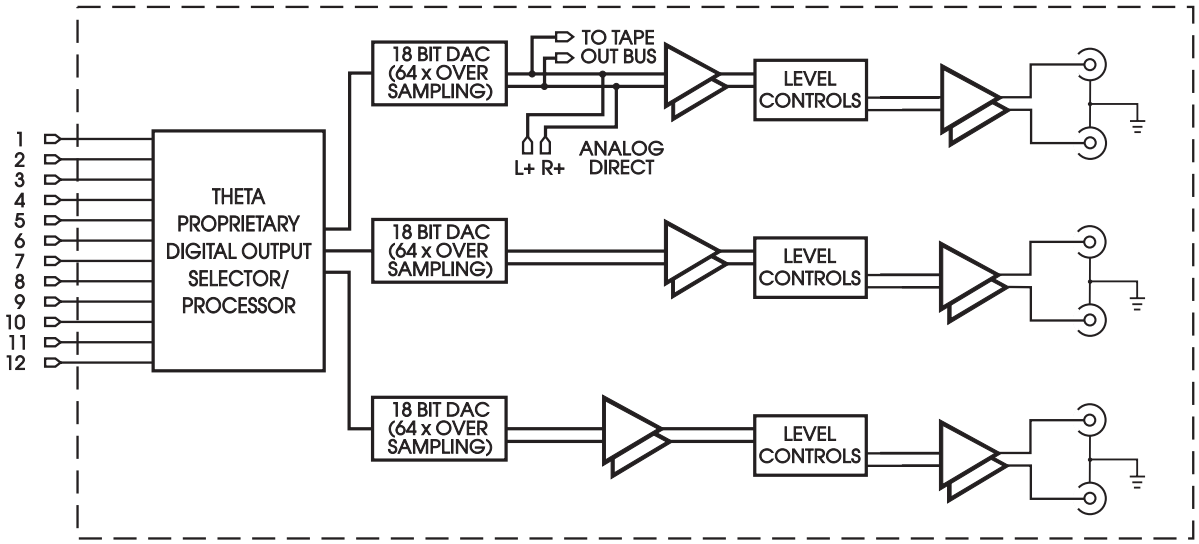
Volume Control: I.C. based, in the analog domain.

Single-Ended Outputs: One phase of balanced outputs, not summed.

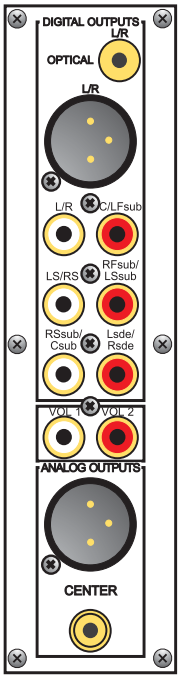
Sample Rates Supported: 32KHz, 44.1 KHz, 48 KHz.

Output Specifications:

Output Impedance:	36.5 Ohms
Maximum Output Level:	10 Vrms
Frequency Response:	20 Hz-20 kHz, ± 0.2 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0060% @ 1KHz, maximum output level.
Dynamic Range:	95dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	95 typical, idle channel, A-weighted.
Crosstalk:	-90dB Right - Left, -120dB Center-Left @ 20KHz



Superior Quality 12-Channel Digital Output Card



Outputs:

Digital Outputs: (Can be installed in any one of the 3 slots).

8: 1 AES/EBU (Balanced XLR), 1 Single-Ended (RCA), 1 Optional AT&T for Front Left/Right, and coaxial for all other channel pairs (Center/Left Front Sub, Left/Right Surround, Right Front Sub/Left Surround Sub, Right Surround Sub/Center Sub or Surround Center, Left Side/Right Side). 96K compatible.

This Card can also have an analog Center Channel output. This is useful when digital outputs are required for the front left/right channels and DAC cards used for all other outputs. The center channel option is available only in Superior quality and has both a Balanced and Single-Ended (RCA) output connector.

Analog Output (Optional):

Output channel has a balanced (XLR) and a single-ended (RCA) output connector.

D/A Conversion: 20-bit Ladder (8X oversampling). Two DACs per channel (6 per board) for true differential operation.

Volume Control: Theta proprietary switched resistor network in the analog domain.

Digital Filter: 8x oversampling Theta proprietary FIR filter running on Motorola 56004 DSP. 4x oversampling for 96KHz sources.

Single-Ended Output: Summed from balanced signals, retains many of the advantages of the balanced output.

Sample Rates Supported: 32KHz, 44.1 KHz, 48 KHz, 88.1 KHz, 96 KHz.

Balanced Output Specifications:

Output Impedance:	20 Ohms
Maximum Output Level:	20 Vrms
Frequency Response:	20 Hz-20 kHz, ± 0.01 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0016% @ 1KHz, maximum output level.
Dynamic Range:	105dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	105dB typical, idle channel, A-weighted.
Crosstalk:	-90dB Right - Left, -120dB Center-Left @ 20KHz

Single-Ended Output Specifications:

Output Impedance:	10 Ohms
Maximum Output Level:	10 Vrms
Frequency Response:	20 Hz-20 kHz, ± 0.01 dB, Ref. 1KHz.
THD+Noise:	Less than 0.0016% @ 1KHz, maximum output level.
Dynamic Range:	105dB minimum, 20KHz bandwidth, Ref. 1KHZ, A-weighted.
Signal to Noise Ratio:	105dB typical, idle channel, A-weighted.
Crosstalk:	-90dB Right - Left, -120dB Center-Left @ 20KHz

Control: 2 serial digital volume control data for use with external volume control.

Block Diagram:

Please see page 7.

90 DAY LIMITED WARRANTY TERMS AND CONDITIONS
(5 Year optional extended service contract)

1. Theta Digital Corporation, henceforth referred to as Theta, warrants the product designated herein to be free of manufacturing defects in material and workmanship, subject to the conditions set forth herein, for a period of 90 days from the date of purchase by the original purchaser, henceforth referred to as purchaser. If the purchaser registers the unit with Theta by mailing in the warranty card, together with a copy of the bill of sale, within 14 days of the date of purchase, said purchaser will be registered for an extended service contract. The extended service contract extends the 90 days to a period of 5 years from the date of purchase by the original purchaser or no later than 7 years from the date of shipment to the authorized Theta dealer, whichever comes first.

2. CONDITIONS

   This warranty is subject to the following conditions and limitations. The warranty is void and inapplicable if the product has been used or handled other than in accordance with the instructions in the owner's manual, abused or misused, damaged by accident or neglect or in being transported, or if the defect is due to the product being repaired or tampered with or modified by anyone other than Theta or an authorized Theta repair center. In the unlikely event that the unit requires service, contact Theta for an RA (Return Authorization) number. The product must be packed and returned to Theta or an authorized Theta repair center by the customer at his or her sole expense. Theta will pay return freight of its choice. A returned product must be accompanied by a written description of the defect, a photocopy of the original purchase receipt, and a daytime phone number where the owner can be reached. The unaltered receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorized dealer and the purchase price. Theta reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person. The warranty is valid only in the country in which the unit was purchased.

3. REMEDY

   In the event the above product fails to meet the warranty, and the above conditions have been met, the purchaser's sole remedy under the limited warranty shall be to obtain an RA number and return the product to Theta or an authorized Theta repair center where the defect will be rectified without charge for parts or labor.

4. LIMITED TO ORIGINAL PURCHASER

   This warranty is for the sole benefit of the original purchaser of the covered product and shall not be transferred to a subsequent purchaser of the product.

5. DURATION OF WARRANTY

   This warranty expires 90 days after the date of original purchase. If Theta receives the completed warranty registration card within 14 days of original purchase, this period is extended to the fifth anniversary of the original date of purchase or no later that the seventh anniversary of the shipment to the authorized Theta dealer, whichever comes first.

6. MISCELLANEOUS

   ANY IMPLIED WARRANTIES RELATING TO THE ABOVE PRODUCT SHALL BE LIMITED TO THE DURATION OF THIS WARRANTY. THE WARRANTY DOES NOT EXTEND TO ANY INCIDENTAL OR CONSEQUENTIAL COSTS OR DAMAGES TO THE PURCHASER. Some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

   Theta does not warrant that the operation of this product will be uninterrupted or error free. Theta is not responsible for damage that occurs as a result of user failure to follow the instructions intended for Theta products

7. WARRANTOR

   Inquiries regarding the above limited warranty may be sent to the following address:

   THETA DIGITAL CORPORATION
   5330 DERRY AVENUE, SUITE "R"
   AGOURA HILLS, CA 91301

   WARRANTY OUTSIDE THE USA

   Theta has formal distribution in many of the countries of the free world, in each country the Theta Importer has contractually accepted the responsibility for product warranty. Warranty service should normally be obtained from the importing dealer or distributor from whom you obtained your product.

WARNINGS

1. To prevent fire or shock hazard, do not expose your Theta product to rain or moisture.
2. This unit contains voltages which can cause serious injury or death. Do not operate with covers removed. Refer all servicing to your authorized Theta dealer.
3. For continued protection against fire hazard, replace fuses only with the same type and rating of fuses as specified.